Omaha School Employees' Retirement System

Review of:

September 1, 2004 Actuarial Valuation

September 6, 2005

GABRIEL, ROEDER, SMITH & COMPANY
CONSULTANTS & ACTUARIES

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September 6, 2005

Board of Trustees
Omaha School Employees' Retirement System
3215 Cuming Street
Omaha, Nebraska 68131-2024

Subject: Actuarial Review

Dear Members of the Board:

At your request, we have performed an actuarial review of the Omaha School Employees' Retirement System ("OSERS").

A description of the nature of that review and its results are set forth in this report.

We wish to thank Michael Smith, the staff of OSERS and the staff from Milliman, Inc., without whose willing cooperation this review could not have been completed.

Sincerely,

Gabriel, Roeder, Smith & Company

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Senior Consultant

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Section 1

Executive Summary

At your request, we have performed an actuarial review of the Omaha School Employees' Retirement System ("System" or "OSERS"). The objective of this review is to verify the methods and techniques used in the most recent actuarial valuation report produced by the System's actuary, Milliman, Inc.. Our study included a review of:

- The census data used for the valuation
- The results of the most recent experience study
- The appropriateness and consistency of the methods and assumptions used in the valuation
- The actuarial techniques used to project benefits and develop actuarial liabilities for a sample of plan participants
- The liabilities produced by the Gabriel, Roeder, Smith (GRS) system versus the Milliman, Inc. valuation model
- The content of the most recent valuation report

The key findings of our study were:

- We replicated the Present Value of Future Benefits to within 0.17 percent and the Actuarial Accrued Liability to within 0.54 percent. This is a very close match and is very strong evidence that benefits are being valued correctly.

- The census data provided by Milliman, Inc. was reasonable. We have a few suggestions about verifying the accuracy of the retired life and deferred vested data elements.

- The most recent full experience study was performed for the four-year period ending August 31, 2001.

- Overall the assumptions appear to be reasonable.

- The actuarial techniques used by Milliman, Inc. are consistent with generally accepted actuarial principles.

- Both the actuarial cost method and asset smoothing appear to be reasonable and consistent with generally accepted principles.

- The GRS model produced Normal Costs which were 5.40 percent higher than Milliman, Inc.'s value. This caused a difference in the school district contribution rate: 9.30 percent of payroll under the GRS model and 8.60 percent under the Milliman, Inc. model.

- We found a few minor inconsistencies in the valuation report. The female turnover rates for the classified members in the valuation report were slightly different than those used in calculating the liabilities. The retirement rates used in the valuation were slightly different than those shown in the report. The marriage assumption disclosed in the report was different than the assumption used in calculating liabilities.
- Overall the report content adequately discloses the financial position of the plan. We would recommend including the payment form of the benefits in the Summary of Benefit and Contribution Provisions.

Overall, our review of the OSERS September 1, 2004 valuation confirms that benefits are being recognized appropriately, assumptions are reasonable, and the methods are consistent with actuarial standards of practice.

Section 2

General Approach to Actuarial Review

A "kick-off" conference call for this project was held on June 13, 2005. The conference call allowed us to define the project and objectives and gain perspective on the operations of the System. Following that meeting, we requested from Milliman, Inc. the following information:

1) The final actuarial data file used in the valuations, including the data layout and codes

2) Decrements and salary growth assumption at all ages used in the valuation

3) Detailed actuarial valuation results for a sample of participants

4) A draft copy of the September 1, 2004 valuation report

5) A copy of the latest actuarial experience study for the period August 31, 1997 through August 31, 2001

In performing our study, we reviewed:

1) The census information used in the actuarial valuation

2) The actuarial assumptions used in the 2004 report, the development of such actuarial assumptions as documented in the 1997-2001 experience study report, and the reasonableness and appropriateness of such assumptions

3) Valuation results for the sample of participants – This provided us with a great deal of perspective on the actuarial process utilized by Milliman, Inc. with respect to the System

4) Aggregate valuation results by decrement type

5) Valuation reports, including the development of required contribution and the funded status of the System

Based on the review of the Nebraska statutes covering Class V School Employees, the valuation reports, and the sample lives, we modified the GRS valuation software to accept the participant data and assumptions and to reflect the benefit provisions of the System. These customized programs were used to produce actuarial valuation results for comparison with those produced by Milliman, Inc.. The entire review, which follows, is based on our review of this information and conversations with Milliman, Inc. for clarification of some items.

Key Actuarial Concepts

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board. It is designed to simulate all of the dynamics of such a system for each current system member including:

- Earning future service and making contributions,
- Receiving changes in compensation,
- Leaving the system through job change, disablement, death, or retirement, and
- Determination of and payment of benefits from the System.

This simulated dynamic is applied to each active member of the System, which results in a set of expected future benefit payments for that member. Based on the System's assumed investment return, the stream of expected benefit payments for each member is discounted to produce the present value at the valuation date. This result defines the Actuarial Present Value ("APV") of future benefits. In like manner, an APV of future salaries is determined.

The APV of future benefits and the APV of future salaries for the entire System are the total of these values across all members. The remainder of the actuarial valuation process depends upon these building blocks.

Once the basic results are derived, an actuarial method is applied in order to develop information on contribution levels and funding status. An actuarial method splits the APV of future benefits into two components:

- APV of Normal Costs, and
- Actuarial Accrued Liability ("AAL").

The actuarial method in use by the System is the Entry Age Normal Method. Under this method, the Normal Cost for a member is the level cost as a percent of pay that, if funded from entry through exit from the System, would support the benefits expected to be paid to that member. The AAL for that member is the theoretical accumulation of assets developed from the Normal Cost.

Section 3

Census Information and Sample Benefit Certifications

Census Information

We have reviewed the data used in the 2004 actuarial valuation, as provided by Milliman, Inc., for accuracy, reasonableness and appropriateness. Overall, we found the data used in the valuation to be reasonable and appropriate.

We reviewed the active data for missing or unreasonable current ages, entry ages, salary amounts, accumulated contribution balances, and years of service. We found the active data inputs to be reasonable.

We reviewed the retired and deferred vested data for missing or unreasonable current ages, ages at retirement, spouse ages, benefit amounts, and payment forms. We found a couple of minor data items that we would recommend verifying or adjusting by making an assumption, but the adjustments would not have a material impact on the valuation results. There were a few people coded as service retirees who were younger than the minimum retirement age of 55. These individuals may need their ages or status types verified for accuracy. There are a few retirees and beneficiaries with very low monthly benefits, and a few deferred vested participants with very low annual benefit amounts.

Section 4

Experience Analysis and Actuarial Assumptions

General

We were provided the experience study report for the period August 31, 1997 through August 31, 2001. We have reviewed the experience analysis report in order to assess the validity of the assumptions used in the Actuarial Valuation.

The set of actuarial assumptions is one of the foundations upon which an actuarial valuation is based. An actuarial valuation is, essentially, a statistical projection of the amount and timing of future benefits to be paid under the retirement system. In any statistical projection, assumptions as to future events will drive the process. Actuarial valuations are no exception.

Actuaries speak of the entire set of ingredients of the actuarial valuation process as the Actuarial Basis. The Actuarial Basis consists of:

- The set of actuarial assumptions,

- The asset valuation method, and

- The actuarial cost method.

It is important to understand the nature of actuarial assumptions in evaluating the Actuarial Basis of the OSERS. No projection of future events can be labeled as "correct" or "incorrect." However, there is a "range of reasonableness" of each element of the Actuarial Basis. We evaluate individual elements as follows:

- Whether or not they fall within the range of reasonableness, and

- If they fall within that range, whether or not they fall on the conservative end or the aggressive end of that range.

Often one individual element will be at the conservative end of the spectrum, while another may lie on the aggressive end of the spectrum. The combined effects of all such elements will determine the place on the spectrum of the entire actuarial process.

Actuarial assumptions for the valuation of retirement systems are of two types:

- Demographic assumptions, and

- Economic assumptions.

Demographic Assumptions

General

These assumptions simulate the movement of members into and out of membership and between status types. Key demographic assumptions are:

1) Turnover among active members,

2) Retirement patterns among active members,

3) Non-economic portion of the salary increase assumption (which will be discussed with the economic portion under Economic Assumptions), and

4) Benefit recipient mortality.

In addition, there are a number of other demographic assumptions with less substantial impact on the results of the process, such as:

1) Disability incidence and mortality among disabled benefit recipients,

2) Mortality among active members,

3) The distribution of those who quit and either withdraw their contributions or leave their contributions and remain non-contributing members,

4) Distribution of option selection, and

5) Percent of active members who are married and the relationship of the ages of members and spouses.

Demographic assumptions for systems such as OSERS are normally established by statistical studies of recent actual experience. Such studies underlie the assumptions used in the valuations.

Demographic assumptions have been reviewed in reference to actual experience over the four year period ending August 31, 2001. Actual experience during that period is compared to that expected based on the actuarial assumptions then in use. This relationship is measured with a ratio of actual to expected experience. If the ratio is equal to 1.00, the actual experience has been precisely forecast by the assumptions. If that ratio is greater than 1.00, the assumption has underestimated actual experience. If the ratio is less than 1.00, the assumption has overestimated actual experience. A review of the patterns of these ratios will tell us not only whether an adjustment is needed but also will help to determine the adjustment.

Once it is determined whether or not an assumption needs adjustment, setting the new assumption depends upon the extent to which the current experience is an indicator of the long-term future.

1) Full credibility may be given to the current experience. Under this approach the new assumptions are set very closely to recent experience.

2) Alternatively, the recent experience might be given only partial credibility. Thus, the new assumptions may be set by moving in the direction of the new experience without going "all the way."

3) Finally, if there are forces at work in the experience that will render it atypical of the future, such knowledge is taken into account.

For the most part, Milliman, Inc. chose to develop most of the assumptions based on 1, above. This is a common approach to setting demographic assumptions for public employee retirement systems such as OSERS. It produces assumptions that are considered to be in the middle of the range of reasonableness.

The measurement of experience may be simply a counting of occurrences of an event. Thus, for example, in reviewing retirement patterns, an actuary might count the number of actual retirees among males aged 55 with 30 years of service. These retirements would be compared against the number of total people in that group to generate a raw rate of retirement for that group. This approach, however, does not take into account the benefits of those retirees or the actuarial value

of those benefits. Milliman, Inc. used both the traditional "exposure" analysis in addition to "liability weighting", in analyzing the current assumptions and recommending changes.

The last experience study was performed for the period ending August 31, 2001 for use in the August 31, 2002 valuation. The current assumptions are based on recommendations from this experience study. However, a review of the assumptions should be performed in the near future.

Observations on Assumptions

Retirement – As a result of the last experience study, separate retirement rates were established for certificated and classified members, and the rates for those that have 84, 83 or 82 points were changed to allow for differences in age. It is reasonable to establish separate rates for groups that exhibit different retirement patterns. However, it may not be appropriate to segment the exposures and decrements into groups by age and service that are too small for the experience to be credible. Combining the experience for members with 84, 83 and 82 points and then reviewing the experience by age may result in larger exposure groups on which to recommend rates. Because the retirement rates differ by group, age, service, and points, it is difficult to estimate whether the current rates by group and segment are doing a good job of estimating retirements. However, in the aggregate, the rates seem to be reasonably estimating retirements.

Withdrawal or Turnover – Just as in the case of the retirement rates, the turnover rates were revised as a result of the last experience study to reflect different turnover rates for classified and certificated members. It is most common to see turnover rates that decrease with age and service. The current rates generally reflect this trend. However, the ultimate turnover rate is higher than the select rate for a 30-year old certificated female. It is also common for select rates to be based only on service and not age. If there is enough data for the results of one group to exhibit a different pattern than another group, then it is appropriate for those rates to be incorporated into the valuation. There were some slight inconsistencies between the turnover rates disclosed in the report and those used in the valuation. We were provided with updated valuation results that changed slightly based on these assumptions. We were provided the report in draft form and expect that the inconsistencies will be fixed in the final version of the report.

Benefit Recipient Mortality – Mortality among healthy benefit recipients is based on the 1994 Group Annuity Mortality (1994 GAM) Table without adjustments. This is a reasonable mortality assumption that is used by many similar retirement systems. Because of the relatively small size of the total benefit recipient group (2,839), and the large number of exposures required for full credibility, we recommend using the experience to identify trends in mortality improvement, but would not recommend adopting a table with higher mortality rates. Mortality for disabled members is based on the 1994 GAM table with a ten year set forward. We believe this is a reasonable assumption.

Retiree mortality, which has steadily improved for the last four decades, is a key factor in pension costs. Because we expect mortality to improve, the generally accepted actuarial practice is to utilize a table which predicts slightly fewer deaths than actually occur. Based on the 1997-2001 experience study, the current table was doing so. That might no longer be the case. There was a mortality loss for the plan year ending August 31, 2004. We recommend monitoring the

mortality gains or losses in future valuations. Consistent mortality losses over multiple years would suggest that a mortality table with lower rates be considered for use in the future.

Marriage assumption – The valuation report states that the percent of members married varies by age and sex. The experience study report states that the assumption of 80 percent married remains unchanged. After clarification from Milliman, Inc., we found out that a 100 percent marriage assumption is used in the valuation. Although the marriage assumption only has a minor effect on the liabilities, we recommend disclosing the marriage assumption that is used in determining the liabilities in the report.

Economic Assumptions

General

These assumptions simulate the impact of economic forces on the amounts and values of future benefits. Key economic assumptions are the assumed rate of investment return and assumed rates of future salary increase.

Economic assumptions are normally defined by an underlying inflation assumption. Milliman, Inc. disclosed a cost-of-living-adjustment assumption of 3.5 percent in the 2004 report. We believe an inflation assumption and a cost-of-living assumption of 3.5 percent is reasonable. Actuaries have been slow to recognize reduced inflation. The current actuarial assumption of 3.5 percent is definitely mainstream. However, other factors are noteworthy. Inflation has averaged less than 3.5 percent for the recent past:

- Average inflation over the past 5 years is 2.68 percent
- Average inflation over the past 10 years is 2.51 percent
- Average inflation over the past 20 years is 3.07 percent

Another theoretical measure of anticipated future inflation can be determined from the yields on long term bonds. By comparing the yield of inflation indexed bonds with the yield on long term treasury bonds, it can be calculated that the bond market predicts inflation of 2.56 percent over the next 25-30 years.

We are living in a period of significant economic growth with very little inflation. As a result, real returns on equities have been at an extremely high level for several years. It is important to step back and recognize that this is an unusual economic period relative to our history. At the same time, there are a number of global economic forces at work, which indicate that the nature of our economic relationships may be changing. These considerations indicate that economic assumptions, which have a significant impact on actuarial liabilities, must be set with a great deal of caution.

Investment Return Assumption

The System is currently using an investment return assumption of 8.0 percent, net of investment expenses. A net investment return rate of 8.0 percent per annum falls in the middle of the spectrum of that used by most public employee retirement systems.

Since the last experience study, three years of poor returns have occurred. Consequently, the appropriateness of using net return assumptions as high as 8.0 percent should be reviewed. We agree with Milliman, Inc. that simulating future investment returns, using a forward-looking capital asset pricing model is the best approach in setting the investment return assumption.

Under a capital asset pricing model approach, the System's asset allocation is mapped onto various underlying capital market assumptions by asset class, including correlations and standard deviations. Projections are made to determine what a reasonable range of assumptions might be. Expenses are analyzed separately to determine a net assumption. According to Milliman, Inc.'s model, the median return in the future is expected to be 8.65 percent, which supports the current assumption of 8.0 percent.

Pay Increase Assumption

In sophisticated actuarial models, assumed rates of pay increase are often constructed as the total of the following components:

- Wage inflation assumption – Measures overall growth in pay due to price inflation and general "standard of living" increases.

- Merit, promotion, and longevity increase assumption – Measures growth in pay due to factors unrelated to inflation.

The wage inflation assumption is linked to the inflation assumption used to develop the real return on assets and the assumed investment return. The inflation assumption used for salary growth and discounting liabilities should be consistent.

Milliman, Inc. disclosed a wage inflation assumption of 4.0 percent, consisting of an inflation assumption of 3.5 percent and a "standard of living" increase of 0.5 percent, which is a reasonable assumption. The merit portion of the salary increase assumption is age based and decreases as age increases. Since merit increases are often related to service (and age often serves as a proxy for service), we recommend reviewing pay increases separately for age and service during the next experience study. The actual increases during the experience study period were higher than the expected increases. We believe the current increase assumption is reasonable, but recommend monitoring this in the future as more data is compiled. There was a gain in the plan year ending August 31, 2004, due to actual pay increases being less than expected, which implies that the actual salary increases (at least for high liability members) were lower than expected.

Asset Valuation Method

It is important to discuss the Asset Valuation Method in conjunction with the economic assumptions. Actuaries use smoothing techniques in order to reduce the volatility of asset values over time.

Milliman, Inc.'s method compares the expected actuarial value of assets at year end against actual market value of assets at year end and recognizes, in the actuarial value of assets, 25 percent of the difference. This method tends to defer investment gains and losses over an extended period.

This method is acceptable; however if the System's market value of assets were to earn the assumed return over an extended period of time the actuarial value would consistently trail the market value of assets. A variation to the current method is to compare the expected market value versus the actual market value at the end of the year. The latter method would produce an actuarial value of assets which converges to the market value earned the assumed return over a shorter period of time.

The current asset smoothing method is reasonable and acceptable for public employee retirement systems. We would recommend considering a maximum disparity between the Actuarial Value of Assets and the Market Value of Assets of 20 percent.

Summary

Overall, the set of actuarial assumptions and asset method, individually and in the aggregate, appear to be reasonable.

Section 5

The Actuarial Process

General

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board.

The actuarial values generated from this process are based not only on these assumptions, but also on the additional assumptions built into each actuarial firm's pension valuation software. As a result of these "built in" assumptions, it would be sheer coincidence if two actuarial firms derived precisely the same actuarial values for the same plan, the same assumptions, and the same data. Areas in which actuarial models can differ are:

- Pay – Actuarial models may assume that each year's pay is paid at the beginning of the year, uniformly throughout the year, or (more rarely) at the end of the year.

- Decrement Timing – Actuarial models differ as to the timing of decrements. For example, retirements could be assumed to occur at the beginning of the year, middle of the year, uniformly throughout the year, or at year end.

- Determination of Age and Service – Ages are often determined as the nearest whole age (rounded). However, ages can be measured as the age at last birthday (truncated age) or at the exact fractional age. Likewise, service can be measured exactly or rounded.

- Table Access – Tables of pay increases, decrement rates, and annuity values are accessed in these models by age and service. The method of determining age and service for this process determines how values are accessed.

While differences in approaches to these and other arcane features of the actuarial model will produce somewhat different results, the most important issue is whether or not these items are managed consistently within the models. If, for example, ages are calculated as the rounded age but the assumption tables are constructed using truncated age, the inconsistency could cause distortions in actuarial values.

Another consideration is materiality. An inconsistency in a decrement that is relatively small in its absolute value and that has only minor impact on the valuation will not cause a meaningful distortion in actuarial results.

Milliman, Inc.'s valuation model uses the following approaches:

- Pay – The year's salary is paid uniformly throughout the year.
- Decrement Timing –Retirement, termination, death, and disability decrements are assumed to occur at the middle of the year. Pay increases are assumed to occur at the end of the year.
- Age and Service – Age appears to be determined as the rounded age at the valuation date while service is measured in fractional years.
- Table Access – Tables appear to be accessed using rounded age.

Actuarial Method

The Entry Age Normal method was used to value the System's liability. Under this method, the Normal Cost for a member is the level percentage of pay that, if funded from entry through exit from the System, would support the benefits expected to be paid to that member. The Actuarial Accrued Liability for that member is the theoretical accumulation of assets developed from the Normal Cost. The version of the method being used expresses the Normal Cost as a level percentage of pay.

We have reviewed the method used by Milliman, Inc., as set out in the set of sample individual calculations, and conclude that the Normal Cost has been developed using a generally accepted version of the Entry Age Normal method. For each sample case, the Normal Cost at the valuation date equals the Normal Cost Rate multiplied by salary at the valuation date. The Normal Cost Rate equals the ratio of the APV of Benefits to the APV of Pay, both determined by the member's entry into the system.

The Actuarial Accrued Liability (AAL) was developed using an individual version of the Entry Age Normal method. The aggregate AAL equals the sum of the AAL for each member. The average Normal Cost Rate equals the sum of the Normal Costs for all members divided by the sum of pay for all members under the assumed retirement age.

Amortization Period

Another component of the actuarial method defines how unfunded Actuarial Accrued Liabilities are to be amortized. The System is amortizing unfunded liabilities as a level percentage of pay over a 40-year open period. It is common for public sector plans sponsors to amortize unfunded liabilities on a level percentage of pay basis.

Benefits

Any actuarial valuation process must properly reflect the benefit structure of the retirement system. Based on our review of the pertinent provisions of the Nebraska statutes covering Class

V School Employees, it is our opinion that the "Summary of Plan Provisions" in the valuation report accurately portrays the benefits of the System and that the valuation process accurately reflects those benefit provisions. The normal form of payment is life annuity with a 5-year certain period. Actuarially equivalent joint and survivor annuities are also payable for a minimum of 5 years. We would recommend providing information about the normal form of benefit and that actuarially equivalent payment forms are also available.

From our review, the complexities of the System's benefit structure have been addressed in a reasonable manner for purposes of determining the System's liabilities and contribution requirements.

Summary

In summary, we have concluded that Milliman, Inc.'s actuarial process:

- Calculates actuarial values with internal consistency using generally accepted actuarial principles,
- Appropriately applies the assumptions described in the actuarial valuation report, with the exception of the withdrawal assumption.
- Appropriately applies the Entry Age Method as described in the actuarial valuation report, and
- Appropriately reflects the benefit provisions of the System.

Section 6

Actuarial Valuation Results

Under this engagement, one of the items required of Gabriel, Roeder, Smith & Company ("GRS") was to replicate the actuarial values for the System as of September 1, 2004. The purpose of this exercise is to compare our values to those of Milliman, Inc.. We performed the replication valuation using the same data, actuarial assumptions, and actuarial methods used by Milliman, Inc..

We found that our calculation of the Actuarial Present Value (APV) of Benefits was 0.17 percent higher than Milliman, Inc.'s value. This is a good fit, and is strong evidence that all benefits are being valued correctly.

Our calculation of the Normal Cost (NC) was 5.40 percent higher than that of Milliman, Inc.. Our calculation of the Actuarial Accrued Liability (AAL) was 0.54 percent higher than that of Milliman, Inc..

Summary of Replication Results

Summaries of the comparative results are set forth in Tables 1 through 3 in the next pages. In our opinion, differences in the results generated by the two models are well within a range of reasonableness for such values. Either set of values can be used with confidence.

Table 1

Present Value of Future Benefits

	Milliman[1]		GRS		Delta
Retired members and beneficiaries		584,121,000		582,242,000	-0.32%
Inactive vested members		13,434,000		13,057,000	-2.81%
Refunds due and unpaid to nonvested members[2]		775,000		775,000	0.00%
For service purchases initiated before valuation date[2]		746,000		746,000	0.00%
Active Members:					
Retirement benefits	616,070,000		620,215,000		0.67%
Termination benefits	28,350,000		26,972,000		-4.86%
Death benefits	10,664,000		11,850,000		11.12%
Disability benefits	11,459,000		11,950,000		4.28%
		666,543,000		670,987,000	0.67%
Total Liabilities		**1,265,619,000**		**1,267,807,000**	0.17%

[1] Updated results from those in the original draft report, provided by Milliman, Inc., to correct minor inconsistencies discussed above.
[2] These results were not audited.

Table 2

Unfunded Actuarial Liability

	Milliman	GRS	Delta
1. Present Value of Future Benefits	$ 1,265,619,000	1,267,807,000	0.17%
2. Present Value of Future Normal Costs	199,295,000	195,678,000	-1.81%
3. Actuarial Liability (1) - (2)	1,066,324,000	1,072,129,000	0.54%
4. Actuarial Value of Assets	843,486,000	843,486,000	
5. Unfunded Actuarial Liability (3) - (4)	222,838,000	228,643,000	2.61%
6. Present Value of Future State Contributions under Section 79-988.01	11,387,000	11,387,000	
7. Adjusted Unfunded Actuarial Liability (Payable from Payroll Related Contributions)	211,451,000	217,256,000	2.75%

Table 3

Analysis of Contribution Rate

	Milliman	GRS	Delta
1. (a) Normal Cost Adjusted to Mid-Year	$ 24,183,000	$ 25,488,000	5.40%
(b) Covered Payroll for Members Under Assumed Retirement Age	$ 220,811,000	$ 220,811,000	
(c) Normal Cost Rate (a) / (b)	10.90%	11.50%	0.60%
2. Unfunded Actuarial Liability at Valuation Date (payable from Payroll Related Contributions)*	$ 211,451,000	$ 217,256,000	2.75%
3. 40 Year Amortization Factor (Level Percent of Pay)	21.033123	21.033123	
4. Payment on Unfunded Actuarial Liability (UAL), Adjusted to Mid-year $[(2)/(3)] \times (1.08)^{1/2}$	$ 10,448,000	$ 10,734,000	2.74%
5. Expected Payroll for FYE August 31, 2005	$ 222,035,000	$ 222,035,000	0.00%
6. UAL Payment as a Percent of Payroll (4)/ (5)	4.70%	4.80%	0.10%
7. Total Actuarial Contribution Rate (lc) + (6)	15.60%	16.30%	0.70%
8. Member Contribution Rate	6.30%	6.30%	
9. State Contribution Rate (excluding contribution under Section 79-988.01)	0.70%	0.70%	
10. School District Contribution Rate (7) - (8) - (9)	8.60%	9.30%	0.70%

* Unfunded actuarial liability after reduction for present value of future State contributions under Section 79-988.01.

Section 7

Report Content

We have reviewed the content of the September 1, 2004 report developed by Milliman, Inc. for OSERS. Overall, the report adequately discloses the financial position of the plan and contains sufficient supporting documentation.

We found a few minor inconsistencies in the report:

- The turnover rates disclosed for classified group for females were not consistent for all ages with those used in the valuation.

- The retirement rates disclosed in the report were not consistent for all ages with those used in the valuation.

- The marriage assumption used in developing the actuarial accrued liability was 100 percent, but it was disclosed as varying by age and sex in the report.

We would recommend including the following additional information in the report.

- Including the normal payment form of benefits in Appendix B "Summary of Benefit and Contribution Provisions"

Section 8

Conclusions

Our findings are that the actuarial valuation was accurate and conducted appropriately. We have several modest suggestions for improvement which are discussed above. We matched the liabilities quite closely and matched the normal cost within 5.4 percent. The contribution rate that we calculated was slightly higher than the contribution rate in the actuarial valuation report.

We believe the Milliman, Inc. report fairly discloses the financial status of OSERS.