Consulting
Retirement

Actuarial Audit Report

The University of California

PERS Plus 5 Plan

As of July 1, 2011

Introduction

We have completed our actuarial audit of the University of California (“UC” or “the University”) PERS Plus 5 Plan (the “Plan”). This work entailed a review of the data, valuation processes, and results generated by the Plan’s actuary as requested.

As demonstrated in the attached findings, we have matched actuarial calculations within an actuarially acceptable margin and have several related comments. None of the comments reflects a critical concern. Our audit finds that actuarial calculations and results were reasonable, consistent and accurate and that the presentation of the results was compliant with the standards of GASB.

To our knowledge, no colleague of Aon Hewitt[1] providing services to The University of California has any material direct or indirect financial interest in The University of California. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for The University of California.

We look forward to presenting these findings to the University.

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Senior Vice President
Aon Hewitt

November 8, 2011

[1] Aon Consulting, Inc. and Hewitt Associates LLC are operating as Aon Hewitt

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Section 1 – General Findings

University procedures, as well as good business practice, call for independent audits of the University's actuary to be conducted periodically. The engagement by UC Human Resources elaborated that the firm conducting the audit is to express an opinion regarding:

- The reasonability, consistency, and accuracy of the method, factors and assumptions used in the actuarial valuation,
- The reasonability, consistency, and accuracy of the compilation of the actuarial valuation.

The overall finding of this actuarial audit is that the July 1, 2011 valuation was performed by the Regents' consulting actuary, the Segal Company ("Segal"), in a manner that is reasonable and consistent with generally accepted actuarial principles. The valuation presents a fair representation of the actuarial liabilities and develops contribution rates which are generally appropriate to satisfy the funding obligations of the University. We did not find any issues that rose to the level of serious concern.

Generally our audit comments will be one of the following:

- **Level of Serious Concern** – concluding that some part of the work may be incorrect, unreasonable, or inconsistent with generally accepted actuarial principles; or
- **Suggestions and Considerations** – suggesting changes or further analysis which might improve the actuarial estimates and add value and understanding to the actuarial work.

The following issues rise to the level of serious concern:

- There were no issues that rose to the level of serious concern.

The following are suggestions and considerations:

- There were no suggestions or considerations.

Aon Hewitt reviewed the Segal report entitled University of California PERS Plus 5 Plan Actuarial Valuation Report as of January 2011, dated October 20, 2011, as well as Segal's records of the University's active, inactive, and beneficiary data. Additionally, Aon Hewitt engaged in numerous phone conversations and email exchanges with both the University and Segal to confirm certain data and garner answers to questions during the preparation of this report. Below is an overview of our results:

The Aon Hewitt audit of the Plan first confirmed that the population utilized in the valuation is appropriate. Based on conversations with representatives of the University of California Office of the President, we confirmed the reasonableness of the data utilized in the valuation.

We then replicated the actuarial valuation conducted by Segal, and the Aon Hewitt results match those results within our materiality margin of error. For certain actuarial valuation purposes, the IRS specifies either a 5% or 2% threshold or materiality. We have applied the 2% threshold in this case and our results are well within this standard.

The primary purpose of an actuarial audit is to confirm that there are no significant errors in the data or the actuarial calculations, of if there are, to identify them so that they can be addressed. Based on our replication of results, we report that we have found no significant discrepancies and conclude that there are no significant errors in the valuation of the Plan's liabilities.

The following table summarizes the valuation data and actuarial liabilities produced by the Segal and Aon Hewitt actuarial valuations:

Summary of Valuation Data and Results

	(1) Aon Hewitt	**(2) Segal**	**(2) ÷ (1) % Delta**
Number of Participants			
Retirees	583	583	0.000%
Beneficiaries	96	96	0.000%
Total	679	679	0.000%
Average Age			
Retirees	80.9	80.9	0.000%
Beneficiaries	76.3	76.3	0.000%
Total	80.3	80.3	0.000%
Total Monthly Benefit	$ 393,923	$ 393,923	0.000%
Retirees	60,001	60,001	0.000%
Beneficiaries	$ 453,924	$ 453,924	0.000%
Total			
Average Monthly Benefit			
Retirees	$ 676	$ 676	0.000%
Beneficiaries	625	625	0.000%
Total	$ 669	$ 669	0.000%
Actuarial Accrued Liability			
Retirees	$38,994,001	$38,922,120	(0.184%)
Beneficiaries	6,342,970	6,341,496	(0.023%)
Administrative Expenses	453,370	452,636	(0.162%)
Total	$45,790,341	$45,716,252	(0.162%)

Section 2 – Audit of Actuarial Method, Factors and Assumptions Used in Actuarial Valuation

The first step in the actuarial audit process is to review the actuarial method, actuarial factors, and actuarial assumptions used in the actuarial valuation.

Actuarial Method

Segal uses several actuarial methods in determining costs and liabilities for the University. For the PERS Plus 5 Plan:

- The actuarial cost method is unit credit.

Actuarial Cost Method

The unit credit method in general is both a reasonable and appropriate method for purposes of a GASB valuation.

Administrative Expenses Load

The actuarial method also includes assumptions regarding assets and administrative loads. With regard to the actuarial value of assets methodology employed by the Plan, the Plan uses market value, so there is no assumption to be commented on. We confirmed that the calculation of the market value of assets is consistent with the assets held by the Plan.

An actuarial factor which is used in this actuarial valuation is:

- Administrative Expenses Load

Segal increases the projected PERS Plus 5 Plan actuarial accrued liability by 1% to reflect Plan expenses.

We have reviewed this load assumption and find that is was calculated in a manner consistent with the assumption. We can also note that the 1% factor falls within a range of reasonable estimates for administrative costs of a plan this size.

Actuarial Assumptions

In the process of conducting an actuarial valuation, actuaries generally use explicit methods to determine actuarial values. For example, they project potential benefit amounts to future dates, and discount those benefits using various actuarial factors.

Because of the nature of this Plan (frozen plan covering a closed group of retirees) there are less actuarial assumptions in this Plan than in a plan with ongoing benefit accruals.

We have reviewed the actuarial assumptions used by the actuary and find them to be reasonable, consistent, and accurate.

The actuary uses a limited number of actuarial assumptions, including:

- Demographic Assumptions
  - Mortality After Retirement
- Economic Assumptions
  - Inflation
  - Investment Return Rate
  - Cost-of-Living Adjustment
  - Expenses

Brief comments on each assumption are included below and are discussed in more detail in the review of the University of California Retirement Plan experience study covering the period July 1, 2006 through June 30, 2010 ("UCRP Experience Study").

Demographic Assumptions

Mortality After Retirement

We concur that the mortality tables used by Segal in valuing the Plan are reasonable, consistent and accurate. As we noted in our review of the UCRP Experience Study, we understand that Segal considered moving to a generational mortality table, but know of no large public plans that currently utilize one. Doing so would require that a number of issues be addressed that do not need to be addressed under the current table, and a generational table would not provide significantly different results at this time. Due to the frozen nature of the Plan's population and the fact that the use of generational table would not necessarily generate materially different results at this time, the use of the RP-2000 Combined Healthy table projected with Scale AA to 2025 and a two year setback is acceptable.

Economic Assumptions

Inflation

The Plan uses a 3.50% assumed rate of inflation. As we noted in the UCRP Experience Study, we believe this rate is near the top end of the reasonable range and consistent with what other large systems are using. We concur that the inflation rate used by Segal is reasonable, consistent and accurate.

Investment Return Rate

The Plan uses a 7.50% investment return rate, net of expenses. As noted in the UCRP Experience Study, we believe this rate is conservative, but still lies within a reasonable range given the investment mix and is therefore acceptable.

Cost-of-Living Adjustment

We concur that the COLA assumptions used by Segal in valuing the Plan are reasonable, consistent and accurate. While two ad hoc COLAs have been provided by the Plan in the past decade, we believe the future assumption of no ad hoc COLAs is correct and represents the current actuarial practice of not recognizing potential future amendments until a plan is actually amended. Although the inflation rate utilized by the Plan is at the top end of the range for reasonableness, a lowering of that rate to the middle of the range would not affect the 2% per annum COLA generated by the assumption, so we are comfortable with this. This interaction is discussed in more detail in the experience study of the University of California Retirement Plan (UCRP).

The results also reflect the new COLA funding test for the annual COLA for the Plan recently approved by The Regents. We believe the use of funding test (in this case checking both the funded status of the Plan and COLAs provided by the UCRP) to ensure the appropriateness of the COLA is a reasonable addition to the Plan, but that future changes to the test may be necessary. This too is addressed in more detail in the UCRP Experience Study.

Section 3 – Audit of Compilation of Actuarial Valuation

The cornerstone of any actuarial audit is a replication of the actuarial valuation. As mentioned above, we matched quite closely both the Plan data and the Plan liabilities developed by Segal for the PERS Plus 5 Plan. The total actuarial accrued liability calculated by Aon Hewitt was within 0.162% of that calculated by Segal. Actuaries generally use a 2.0% deviation as an acceptable range of error for the actuarial accrued liability, although in some cases a smaller deviation of as low as 0.50% is used. Because our deviation was well within both the standard and an exceptional “margin of error”, we are quite satisfied that the numbers are appropriate.

The confirmation of the liabilities and the assets allowed us to then match the GASB-related costs and reporting as well. Both the GASB costs and the reporting of GASB 25 required information was consistent with our calculations and understanding of the disclosure requirements. Consequently, we conclude that the valuation results are reasonable, accurate and consistent with the data provided, the assumptions utilized, and the standards that cover the Plan.

If there is a desire to review further, we can provide Segal with more of our data for comparison or request that they provide additional information. We do not believe it is in the best interest of the University to hire actuaries to analyze potential discrepancies of 0.162%, however. Such a difference in value is dwarfed by the use of more significant assumptions, methods and processes which the systems and actuaries make routinely.