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Retirement Board
California State Teachers' Retirement System

Re: Defined Benefit Supplement Program
Actuarial Study as of June 30, 2001

Dear Members of the Board:

At your request, we have performed an actuarial study of the financial condition of the Defined Benefit Supplement Program of the State Teachers' Retirement Plan as of June 30, 2001. Details about the actuarial study are contained in the following report.

I certify that the information included in this report is complete and accurate to the best of my knowledge and belief. All calculations have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the applicable Standards of Practice adopted by the American Academy of Actuaries.

Milliman USA has been engaged by CalSTRS as an independent actuary. The undersigned is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries, and an Enrolled Actuary, and is experienced in performing actuarial studies for large public employee retirement systems.

Respectfully submitted,

Mark O. Johnson, F.S.A., M.A.A.A., E.A.
Principal and Consulting Actuary

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SECTION 1
EXECUTIVE SUMMARY

The Defined Benefit Supplement (DBS) Program was established to accumulate nominal account balances for members of the Defined Benefit Program. The first contributions received represent the redirection of 25% of the members' contribution to the Defined Benefit Program. Member contributions totaling $210 million were received between January 1, 2001, and June 30, 2001. The estimated sum of all nominal account balances is $213 million as of the end of the plan year.

The fair market value of the DBS Program assets was $207 million, which means the DBS Program had an Unfunded Actuarial Obligation of $6 million as of June 30, 2001. This actuarial loss is due solely to the excess of the Minimum Interest Rate (6.25%) over the net investment rate of return (-3.0%) for the period.

($Thousands)	**Year Ended June 30, 2001**
Market Value of Assets	
Beginning of Year	$ 0
Additions	
Contributions	210,205
Earnings	(3,176)
Deductions	
Benefits	0
Expenses	(113)
End of Year	$ 206,916
Actuarial Obligation	213,169
Unfunded Actuarial Obligation	$ 6,253
Actuarial (Gain) or Loss	
Investment Return on Assets	$ 7,061
Interest Credits on Accounts	(808)
Actuarial (Gain) or Loss	$ 6,253

If no Additional Earnings Credit is adopted, the Gain and Loss Reserve will have a negative balance of $6,253,000 as of June 30, 2001. This negative balance will need to be offset before future Additional Earnings Credits will be recommended.

Recommendation: Because the DBS Program currently has an Unfunded Actuarial Obligation, we recommend that no Additional Earnings Credit be granted at this time.

SECTION 2

FINDINGS OF THE ACTUARIAL STUDY

An actuarial study is performed as of June 30 of each year, the last day of the Program's plan year. The primary purpose of the study is to determine the financial condition of the DBS Program through the measurement of the Gain and Loss Reserve.

The findings have been determined according to actuarial assumptions based on our current expectations of future experience. In our opinion, the assumptions used in the study represent our best estimate of future conditions affecting the Program. Nevertheless, the emerging costs of the Program will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

STUDY METHOD

We did not perform a complete actuarial valuation of the DBS Program. We simply measured the accumulated contributions with interest as of the valuation date, and compared the result with the fair market value of assets. This comparison simulates an actuarial valuation with an investment return assumption equal to the assumed future interest crediting rate. The study assumes the long-term interest crediting rate and the net investment return assumption are both equal to 8% per year. These are the same assumptions adopted by the Retirement Board for the actuarial valuation of the Cash Balance Benefit Program.

ACTUARIAL VALUE OF ASSETS

The actuarial value of assets for this study is the Fair Market Value as reported by CalSTRS. A Statement of Program Assets for the plan year is shown in **TABLE 1**, and the Statement of Change in Program Assets is shown in **TABLE 2**.

ACTUARIAL BALANCE SHEET

Under the Traditional Unit Credit Actuarial Cost Method, when the assumed investment return is equal to the assumed interest crediting rate, the Actuarial Obligation is equivalent to the current sum of the Participants' Account Balances. **TABLE 3** shows the Actuarial Obligation for this study.

The excess of the Actuarial Obligation over the Actuarial Value of Assets is called the Unfunded Actuarial Obligation. If the Assets exceed the Actuarial Obligation, the difference is called the Actuarial Surplus.

Under normal conditions, the DBS Program should have an Actuarial Surplus. To retain an Actuarial Surplus, the investment returns over a long period of time must exceed the combination of the Minimum Interest Rates, the Additional Earnings Credits, and the Additional Annuity Credits. Although we expect this to be the case, the investment performance for the first year was significantly below the long-term assumption of 8% per year.

ACTUARIAL GAINS AND LOSSES

The assumed earnings rate on the invested assets is 8% per year. The actual return for the year was about –3.0%, which produced an investment loss of about $7 million.

The Minimum Interest Rate for last year was 6.25%. Since the assumed total interest credit is 8% per year, the Actuarial Obligation was less than expected by slightly less than $1 million.

The net actuarial loss due to these causes was $6 million as shown in **TABLE 4**.

GAIN AND LOSS RESERVE

TABLE 5 shows the derivation of the Gain and Loss Reserve. After each actuarial study, the Teachers' Retirement Board will decide on the adjustment to the prior year's Gain and Loss Reserve and the Additional Earnings Credit, if any.

- After the adoption of the 2001 actuarial study, the Board will decide how to allocate the actuarial loss. If no Additional Earnings Credit is adopted, the end of the year Gain and Loss Reserve will be equal to $(6 million).

TABLE 1

STATEMENT OF PROGRAM ASSETS

($Thousands)	**June 30, 2001**
Invested Assets	
Pooled Domestic Securities	$ 66,957
Pooled Domestic Equity	140,072
Total Investments	$ 207,029
Receivables	0
Liabilities	(113)
Fair Market Value of Net Assets	$ 206,916

TABLE 2

STATEMENT OF CHANGE IN PROGRAM ASSETS

($Thousands)	**Year Ended June 30, 2001**
Additions	
Contributions	
Participants	$ 210,205
Employers	0
Total Contributions	210,205
Net Earnings	(3,176)
Total Additions	$ 207,029
Deductions	
Benefit Payments	
Retirement, death, and survivor	$ 0
Refunds of Participant contributions	0
Total Benefits	0
Expenses	113
Total Deductions	$ 113
Net Increase (Decrease)	$ 206,916
Fair Market Value of Net Assets	
Beginning of the Year	0
End of the Year	**$ 206,916**
Estimated Net Rate of Return (assuming uniform cash flow through the year)	-3.0%

TABLE 3

ACTUARIAL BALANCE SHEET

($Thousands)	**June 30, 2001**
Total Requirements	
Actuarial Obligation	
Retirees and Beneficiaries	$ 0
Inactive Participants	0
Active Participants	213,169
Total Requirements	$ 213,169
Total Resources	
Actuarial Value of Assets	$ 206,916
Unfunded Actuarial Obligation (Surplus)	6,253
Total Resources	$ 213,169
Funded Ratio	97%

TABLE 4

ACTUARIAL GAINS AND LOSSES

($Thousands)	**Actuarial Obligation**	**Actuarial Value of Assets**	**UAO (Surplus)**
Balance at June 30, 2000	$ 0	$ 0	$ 0
Expected Changes			
Actual Contributions	210,205	210,205	0
Actual Benefits Paid	(0)	(0)	0
Expected Earnings / Credits	3,772	3,772	0
Expected Balance at June 30, 2001	$ 213,977	$ 213,977	$ 0
Actuarial Gains or Losses			
(Gain) on Actuarial Obligation	(808)		(808)
(Loss) on Assets		(7,061)	7,061
Net Gain or (Loss)			6,253
Actual Balance at June 30, 2001	$ 213,169	$ 206,916	$ 6,253

TABLE 5

GAIN AND LOSS RESERVE

($Thousands)	**June 30, 2001**
Unfunded Actuarial Obligation	$ 6,253
Gain and Loss Reserve	
Beginning of Year	$ 0
Additional Earnings Credit	[1]
Additional Annuity Credit	0
Allocated to Funding	[1]
End of Year Gain and Loss Reserve	$ 0
Unallocated Gains and (Losses)	$ (6,253)

Notes:

[1] To be determined by the Teachers' Retirement Board after the adoption of this Actuarial Study.