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Pension Oversight Committee Plan Highlights - May 8, 2013

October 2012

MISCELLANEOUS PLAN OF THE CITY OF COSTA MESA (CalPERS ID 5937664258)
Annual Valuation Report as of June 30, 2011

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2011 actuarial valuation report of your pension plan. This report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary is available to discuss the report with you.

Changes Since the Prior Year's Valuation

The CalPERS' Board of Administration adopted updated actuarial assumptions to be used beginning with the June 30, 2011 valuation. In addition, a temporary modification to our method of determining the actuarial value of assets and amortizing gains and losses was implemented for the valuations as of June 30, 2009 through June 30, 2011. The effect of those modifications continue in this valuation.

There may also be changes specific to your plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions." The effect of the changes on your rate is included in the "Reconciliation of Required Employer Contributions." **As noted on page 13 of the report, your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013.**

Future Contribution Rates

The exhibit below displays the required employer contribution rate before any cost sharing and Superfunded status for 2013/2014 along with estimates of the contribution rate for 2014/2015 and 2015/2016 and the probable Superfunded status for 2014/2015. The estimated rate for 2014/2015 is based solely on a projection of the investment return for fiscal 2011/2012, namely 0%. The estimated rate for 2015/2016 uses the valuation assumption of 7.5% as the investment return for fiscal 2012/2013. See Appendix D, "Analysis of Future Investment Return Scenarios", for rate projections under a variety of investment return scenarios. **These rates may not be GASB compliant.** See Appendix C for the GASB compliant rate. Please disregard any projections that we may have provided to you in the past.

Contribution Rates

Fiscal Year	Employer Contribution Rate	Superfunded?
2013/2014	24.914%	NO
2014/2015	26.5% (projected)	NO
2015/2016	27.1% (projected)	N/A

Member contributions other than cost sharing, (whether paid by the employer or the employee) are in addition to the above rates.

The estimates for 2014/2015 and 2015/2016 also assume that there are no future amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.). This is a very important assumption because these gains and losses do occur and can have a significant impact on your contribution rate. Even for the largest plans, such gains and losses often cause a change in the employer's contribution rate of one or two percent and may be even larger in some less common instances. These gains and losses cannot be predicted in advance so the projected employer contribution rates are just estimates. Your actual rate for 2014/2015 will be provided in next year's report.

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Purpose of the Report

This report presents the results of the June 30, 2011 actuarial valuation of the MISCELLANEOUS PLAN OF THE CITY OF COSTA MESA of the California Public Employees' Retirement System (CalPERS). The valuation was prepared by the Plan Actuary in order to:

- set forth the actuarial assets and accrued liabilities of this plan as of June 30, 2011;
- determine the required employer contribution rate for this plan for the fiscal year July 1, 2013 through June 30, 2014;
- provide actuarial information as of June 30, 2011 to the CalPERS Board of Administration and other interested parties; and
- provide pension information as of June 30, 2011 to be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 27 for a Single Employer Defined Benefit Pension Plan.

The use of this report for any other purposes may be inappropriate. In particular, this report does not contain information applicable to alternative benefit costs. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Required Employer Contribution

	Fiscal Year 2012/2013	Fiscal Year 2013/2014
Required Employer Contributions		
1. Contribution in Projected Dollars		
a) Total Normal Cost	$ 4,447,126	$ 3,901,154
b) Employee Contribution[1]	2,123,493	1,768,930
c) Employer Normal Cost [(1a) – (1b)]	2,323,633	2,132,224
d) Unfunded Contribution	3,463,637	3,922,624
e) Total Employer Contribution [(1c) + (1d)]	$ 5,787,270	$ 6,054,848
f) Employee Cost Sharing		545,936
g) Net Employer Contribution [(1e) – (1f)]		5,508,912
Annual Lump Sum Prepayment Option[2] [(1g) / 1.075^.5]	$ 5,575,260	$ 5,313,267
2. Contribution as a Percentage of Payroll		
a) Total Normal Cost	16.754%	17.643%
b) Employee Contribution[1]	8.000%	8.000%
c) Employer Normal Cost [(2a) – (2b)]	8.754%	9.643%
d) Unfunded Rate	13.049%	17.740%
e) Total Employer Rate [(2c) + (2d)]	21.803%	27.383%
f) Employee Cost Sharing		2.469%
g) Net Employer Contribution Rate [(2e) – (2f)]		24.914%

Annual Prepayment Discount?

[1]This is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula. Employee cost sharing is shown separately and is therefore not included in this line item.

[2]Payment must be received by CalPERS before the first payroll reported to CalPERS of the new fiscal year and after June 30.

Funded Status

	June 30, 2010	June 30, 2011
1. Present Value of Projected Benefits	$ 234,111,145	$ 244,384,520
2. Entry Age Normal Accrued Liability	202,584,277	217,132,722
3. Actuarial Value of Assets (AVA)	158,818,814	165,287,129
4. Unfunded Liability (AVA Basis) [(2) – (3)]	$ 43,765,463	$ 51,845,593
5. Funded Ratio (AVA Basis) [(3) / (2)]	78.4%	76.1%
6. Market Value of Assets (MVA)	$ 124,738,016	$ 147,217,268
7. Unfunded Liability (MVA Basis) [(2) – (6)]	$ 77,846,261	$ 69,915,454
8. Funded Ratio (MVA Basis) [(6) / (2)]	61.6%	67.8%
Superfunded Status	No	No

AVA

MVA

Cost

Actuarial Cost Estimates in General

What will this pension plan cost? Unfortunately, there is no simple answer. There are two major reasons for the complexity of the answer. First, all actuarial calculations, including the ones in this report, are based on a number of assumptions about the future. These assumptions can be divided into two categories.

- Demographic assumptions include the percentage of employees that will terminate, die, become disabled, and retire in each future year.
- Economic assumptions include future salary increases for each active employee, and the assumption with the greatest impact, future asset returns at CalPERS for each year into the future until the last dollar is paid to current members of your plan.

While CalPERS has set these assumptions to reflect our best estimate of the real future of your plan, it must be understood that these assumptions are very long term predictors and will surely not be realized in any one year. For example, while the asset earnings at CalPERS have averaged more than the assumed return of 7.5% for the past twenty year period ending June 30, 2012, returns for each fiscal year ranged from -24% to +21.7%

Second, the very nature of actuarial funding produces the answer to the question of plan cost as the sum of two separate pieces.

Normal Cost

Past Service Cost or Accrued Liability

- The Normal Cost (i.e., the future annual premiums in the absence of surplus or unfunded liability) expressed as a percentage of total active payroll.
- The Past Service Cost or Accrued Liability (i.e., the current value of the benefit for all credited past service of current members) which is expressed as a lump sum dollar amount.

The cost is the sum of a percent of future pay and a lump sum dollar amount (the sum of an apple and an orange if you will). To communicate the total cost, either the Normal Cost (i.e., future percent of payroll) must be converted to a lump sum dollar amount (in which case the total cost is the present value of benefits), or the Past Service Cost (i.e., the lump sum) must be converted to a percent of payroll (in which case the total cost is expressed as the employer's rate, part of which is permanent and part temporary). Converting the Past Service Cost lump sum to a percent of payroll requires a specific amortization period, and the employer rate will vary depending on the amortization period chosen.

Changes since the Prior Valuation

Actuarial Assumptions

The CalPERS Actuarial office conducted a study and hired an independent evaluator to assess current economic assumptions. Based on the information from both studies, the CalPERS Board of Administration has adopted updated economic assumptions to be used beginning with the June 30, 2011 valuation. In particular, the recommendation based on both studies was to lower the price inflation from 3.00 to 2.75 percent.

Rate Assumptions:
- Return
- Inflation
- Wages

Lowering the price inflation had a direct impact on the Investment Return and the Overall Payroll Growth assumptions. The Investment Return assumption is calculated as the sum of the price inflation and the real rate of return. Our assumed real rate of return is 4.75 percent. When added to our new price inflation of 2.75 percent, the resulting investment return is 7.50 percent. The Overall Payroll Growth is calculated as the sum of the price inflation and real wage inflation. Our assumed real wage inflation is 0.25 percent. When added to our new price inflation of 2.75 percent, the resulting overall payroll growth is 3.00 percent.

The new assumptions are described in Appendix A. The effect of change in assumption on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is included in the "Reconciliation of Required Employer Contributions". **As noted on page 13 of the report, your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013.**

The limitations on benefits imposed by Internal Revenue Code Section 415 were taken into account in this valuation. The effect of these limitations has been deemed immaterial on the overall results and no additional charge to the change in assumptions base was added.

Actuarial Methods

A method change was adopted by the CalPERS Board in June 2009. We are in the third year of a 3-year temporary change to the asset smoothing method and the amortization of gains and losses in order to phase in the impact of the -24% investment loss experienced by CalPERS in fiscal year 2008-2009. The following changes were adopted:

Special handling for FY 2009 - FY 2011

- Increase the corridor limits for the actuarial value of assets from 80%-120% of market value to 60%-140% of market value on June 30, 2009
- Reduce the corridor limits for the actuarial value of assets to 70%-130% of market value on June 30, 2010
- Return to the 80%-120% of market value corridor limits for the actuarial value of assets on June 30, 2011 and thereafter
- Isolate and amortize all gains and losses during fiscal year 2008-2009, 2009-2010 and 2010-2011 over fixed and declining 30 year periods (as opposed to the current rolling 30 year amortization)

A complete description of all methods is in Appendix A. The detailed calculation of the actuarial value of assets is shown in the "Development of the Actuarial Value of Assets."

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation whose valuation date follows the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to Appendix B for a summary of the plan provisions used in the valuation. The effect of any mandated benefit changes or plan amendments on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is shown in the "Reconciliation of Required Employer Contributions". It should be noted that no change in liability or rate is shown for any plan changes which were already included in the prior year's valuation.

Development of Accrued and Unfunded Liabilities

	1.	Present Value of Projected Benefits		
		a) Active Members	$	93,165,368
		b) Transferred Members		15,346,227
		c) Terminated Members		4,266,614
		d) Members and Beneficiaries Receiving Payments		131,606,311
Benefits:		e) Total	$	244,384,520
Less:	2.	Present Value of Future Employer Normal Costs	$	10,454,194
Less:	3.	Present Value of Future Employee Contributions	$	16,797,604
	4.	Entry Age Normal Accrued Liability		
		a) Active Members [(1a) - (2) - (3)]	$	65,913,570
		b) Transferred Members (1b)		15,346,227
		c) Terminated Members (1c)		4,266,614
		d) Members and Beneficiaries Receiving Payments (1d)		131,606,311
Equals:		e) Total Entry Age Normal Accrued Liability	$	217,132,722
	5.	Actuarial Value of Assets (AVA)	$	165,287,129
	6.	Unfunded Accrued Liability (AVA Basis) [(4e) – (5)]	$	51,845,593
	7.	Funded Ratio (AVA Basis) [(5) / (4e)]		76.1%
Less:	8.	Market Value of Assets (MVA) Assets	$	147,217,268
Equals:	9.	Unfunded Liability (MVA Basis) [(4e) - (8)] Unfunded Liability	$	69,915,454
	10.	Funded Ratio (MVA Basis) [(8) / (4e)]		67.8%

(Gain)/Loss Analysis 6/30/10 – 6/30/11

To calculate the cost requirements of the plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

A	**Total (Gain)/Loss for the Year***			
1.	Unfunded Accrued Liability (UAL) as of 6/30/10		$	43,765,463
2.	Expected Payment on the UAL during 2010/2011			1,458,829
3.	Interest through 6/30/11 [.0775 x (A1) - ((1.0775)^{½} - 1) x (A2)]			3,336,349
4.	Expected UAL before all other changes [(A1) - (A2) + (A3)]			45,642,983
5.	Change due to plan changes			0
6.	Change due to assumption change			3,428,700
7.	Expected UAL after all other changes [(A4) + (A5) + (A6)]			49,071,683
8.	Actual UAL as of 6/30/11			51,845,593
9.	Total (Gain)/Loss for 2010/2011 [(A8) - (A7)]		$	2,773,910
B	**Contribution (Gain)/Loss for the Year**			
1.	Expected Contribution (Employer and Employee)		$	5,630,396
2.	Interest on Expected Contributions			214,107
3.	Actual Contributions			5,799,383
4.	Interest on Actual Contributions			220,533
5.	Expected Contributions with Interest [(B1) + (B2)]			5,844,503
6.	Actual Contributions with Interest [(B3) + (B4)]			6,019,916
7.	Contribution (Gain)/Loss [(B5) - (B6)]		$	(175,413)
C	**Asset (Gain)/Loss for the Year**			
1.	Actuarial Value of Assets as of 6/30/10 Including Receivables		$	158,818,814
2.	Receivables as of 6/30/10			399,172
3.	Actuarial Value of Assets as of 6/30/10			158,419,642
4.	Contributions Received			5,799,383
5.	Benefits and Refunds Paid			(10,068,132)
6.	Transfers and miscellaneous adjustments			(133)
7.	Expected Int. [.0775 x (C3) + ((1.0775)^{½} - 1) x ((C4) + (C5) + (C6))]			12,115,190
8.	Expected Assets as of 6/30/11 [(C3) + (C4) + (C5) + (C6) + (C7)]			166,265,950
9.	Receivables as of 6/30/11			311,883
10.	Expected Assets Including Receivables			166,577,833
11.	Actual Actuarial Value of Assets as of 6/30/11			165,287,129
12.	Asset (Gain)/Loss [(C10) - (C11)]		$	1,290,704
D	**Liability (Gain)/Loss for the Year**			
1.	Total (Gain)/Loss (A9)		$	2,773,910
2.	Contribution (Gain)/Loss (B7)			(175,413)
3.	Asset (Gain)/Loss (C12)			1,290,704
4.	Liability (Gain)/Loss [(D1) - (D2) - (D3)]		$	1,658,619
Development of the (Gain)/Loss Balance as of 6/30/11**				
1.	(Gain)/Loss Balance as of 6/30/10		$	11,152,572
2.	Payment Made on the Balance during 2010/2011			669,723
3.	Interest through 6/30/11 [.0775 x (1) - ((1.0775)$^{1/2}$ - 1) x (2)]			838,857
4.	Scheduled (Gain)/Loss Balance as of 6/30/11 [(1) - (2) + (3)]		$	11,321,706

* The Total (Gain)/Loss for 2010/2011 is being amortized over a fixed and declining 30-year period and is shown as “Special (Gain)/Loss” in the “Schedule of Amortization Bases” on the following page.

** This (Gain)/Loss represents the 6/30/11 balance of the accumulation of (gains)/losses through 6/30/08 and is amortized using a rolling 30-year period. Gains and losses incurred after 6/30/2011 will again accumulate to this base.

Schedule of Amortization Bases

There is a two year lag between the Valuation Date and the Contribution Fiscal Year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date (June 30, 2011).
- The employer contribution rate determined by the valuation is for the fiscal year beginning two years after the valuation date (fiscal year 2013/2014).

This two year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and due to the need to provide public agencies with their employer contribution rates well in advance of the start of the fiscal year.

The Unfunded Liability is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The Unfunded Liability is rolled forward each year by subtracting the expected Payment on the Unfunded Liability for the fiscal year and adjusting for interest. The Expected Payment on the Unfunded Liability for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution Rate for the first fiscal year is determined by the actuarial valuation two years ago and the rate for the second year is from the actuarial valuation one year ago. The Normal Cost Rate for each of the two fiscal years is assumed to be the same as the rate determined by the current valuation. All expected dollar amounts are determined by multiplying the rate by the expected payroll for the applicable fiscal year, based on payroll as of the valuation date.

							Amounts for Fiscal 2013/2014		
Reason for Base	Date Established	Amortization Period	Balance 6/30/11	Expected Payment 2011/2012	Balance 6/30/12	Expected Payment 2012/2013	Balance 6/30/13	Scheduled Payment for 2013–2014	Payment as Percent-age of Payroll
ASSUMPTION CHANGE	06/30/03	12	$7,072,445	$681,827	$6,895,945	$703,987	$6,683,232	$722,653	3.268%
METHOD CHANGE	06/30/04	13	$(561,504)	$(51,500)	$(550,220)	$(53,174)	$(536,355)	$(54,588)	(0.247%)
BENEFIT CHANGE	06/30/07	15	$5,682,899	$477,644	$5,613,885	$493,167	$5,523,600	$506,346	2.290%
(GAIN)/LOSS	06/30/08	30	$11,321,706	$679,880	$11,465,919	$690,190	$11,610,259	$697,202	3.153%
ASSUMPTION CHANGE	06/30/09	18	$11,291,928	$852,892	$11,254,525	$880,611	$11,185,577	$904,295	4.090%
SPECIAL (GAIN)/LOSS	06/30/09	28	$7,653,372	$459,592	$7,750,860	$474,529	$7,840,172	$487,503	2.205%
GOLDEN HANDSHAKE	06/30/10	19	$2,409,863	$0	$2,590,603	$196,126	$2,581,550	$201,431	0.911%
SPECIAL (GAIN)/LOSS	06/30/10	29	$1,065,120	$0	$1,145,004	$68,918	$1,159,424	$70,811	0.320%
ASSUMPTION CHANGE	06/30/11	20	$3,428,700	$(180,286)	$3,872,777	$(185,695)	$4,355,768	$109,628	0.496%
SPECIAL (GAIN)/LOSS	06/30/11	30	$2,773,910	$0	$2,981,953	$0	$3,205,600	$192,498	0.871%
PAYMENT (GAIN)/LOSS	06/30/11	30	$(292,846)	$(958,994)	$679,497	$(658,199)	$1,412,895	$84,845	0.384%
TOTAL			**$51,845,593**	**$1,961,055**	**$53,700,748**	**$2,610,460**	**$55,021,722**	**$3,922,624**	**17.740%**

The special (gain)/loss bases were established using the temporary modification recognized in the 2009, 2010 and 2011 annual valuations. Unlike the gain/loss occurring in previous and subsequent years, the gain/loss recognized in the 2009, 2010, and 2011 annual valuations will be amortized over fixed and declining 30 year periods so that these annual gain/losses will be fully paid off in 30 years.

The discount rate assumption is 7.5% after June 30, 2011 in the amortization schedule above.

Note: The assumption change at June 30, 2011 was phased-in over a two-year period. Without the phase-in, the total payment on the amortization bases would increase from 17.740% to 18.732%. Your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013. The required employer contribution rate with no phase-in is 28.375%.

Employer Contribution Rate History

The table below provides a recent history of the employer contribution rates for your plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made in the middle of the year.

Required By Valuation

Fiscal Year	Employer Normal Cost	Unfunded Rate	Total Employer Contribution Rate
2009 - 2010	8.951%	5.426%	14.377%
2010 - 2011	8.925%	5.688%	14.613%
2011 - 2012	8.824%	10.228%	19.052%
2012 - 2013	8.754%	13.049%	21.803%
2013 - 2014	9.643%	17.740%	27.383%

Funding History

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, the actuarial value of assets, funded ratios and the annual covered payroll. The Actuarial Value of Assets is used to establish funding requirements and the funded ratio on this basis represents the progress toward fully funding future benefits for current plan participants. The funded ratio based on the Market Value of Assets is an indicator of the short-term solvency of the plan.

Valuation Date	Accrued Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio AVA	Funded Ratio MVA	Annual Covered Payroll
06/30/07	$ 152,897,755	$ 132,442,055	$ 153,310,763	86.6%	100.3%	$ 26,171,241
06/30/08	165,493,247	142,801,170	145,446,140	86.3%	87.9%	27,305,592
06/30/09	190,477,963	151,347,876	110,703,488	79.5%	58.1%	27,257,811
06/30/10	202,584,277	158,818,814	124,738,016	78.4%	61.6%	24,115,191
06/30/11	217,132,722	165,287,129	147,217,268	76.1%	67.8%	20,235,273

Hypothetical Termination Liability

In August 2011, the CalPERS Board adopted an investment policy and asset allocation strategy that more closely reflects expected benefit payments of the Terminated Agency Pool. With this change, CalPERS increased benefit security for members while limiting its funding risk.

Lower Discount Rate of 4.82%!!

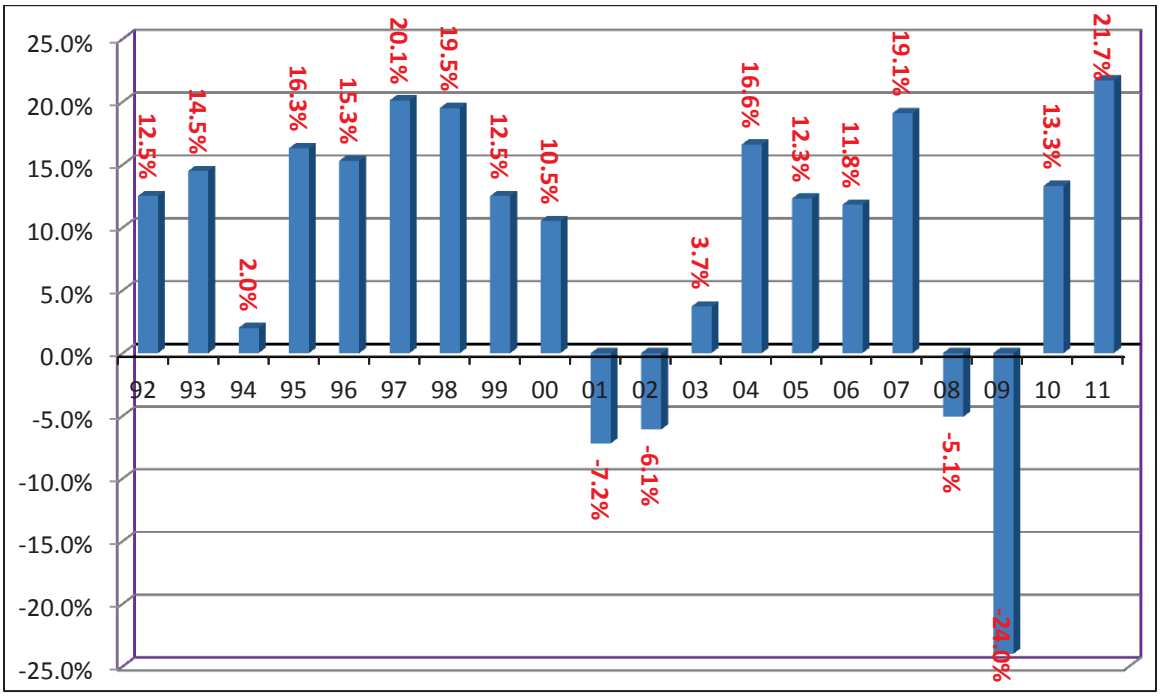
The table below shows the hypothetical termination liability, the market value of assets, the unfunded termination liability and the termination funded ratio. The assumptions used, including the discount rate, are stated in Appendix A and take into account the yields available in the US Treasury market on the valuation date and the mortality load for contingencies. The discount rate is duration weighted and is not necessarily the rate that would be used for this plan if it were to terminate. The discount rate for this plan's termination liability would depend on the duration of the liabilities of this plan. For purposes of this estimate, the discount rate used, 4.82%, is the June 30, 2011 30-year US Treasury Stripped Coupon Rate. Please note, as of June 30, 2012 the 30-year US Treasury Stripped Coupon Rate was 2.87%.

$100M more!!

Valuation Date	Hypothetical Termination Liability	Market Value of Assets (MVA)	Unfunded Termination Liability	Termination Funded Ratio	Discount Rate
06/30/11	$ 316,929,959	$ 147,217,268	$ 169,712,691	46.5%	4.82%

CalPERS History of Investment Returns

The following is a chart with historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning with June 30, 2002 the figures are reported as gross of fees.



Summary of Valuation Data

	June 30, 2010	June 30, 2011
1. **Active Members**		
a) Counts	355	286
b) Average Attained Age	41.87	43.06
c) Average Entry Age to Rate Plan	31.98	32.06
d) Average Years of Service	9.89	11.00
e) Average Annual Covered Pay	$ 67,930	$ 70,753
f) Annual Covered Payroll	24,115,191	20,235,273
g) Projected Annual Payroll for Contribution Year	26,543,665	22,111,629
h) Present Value of Future Payroll	195,933,265	160,450,963
2. **Transferred Members**		
a) Counts	277	277
b) Average Attained Age	41.56	41.62
c) Average Years of Service	2.61	2.64
d) Average Annual Covered Pay	$ 94,091	$ 95,543
3. **Terminated Members**		
a) Counts	263	296
b) Average Attained Age	37.99	38.50
c) Average Years of Service	1.99	2.25
d) Average Annual Covered Pay	$ 35,547	$ 36,813
4. **Retired Members and Beneficiaries**		
a) Counts	358	387
b) Average Attained Age	66.40	66.51
c) Average Annual Benefits	$ 25,248	$ 27,003
5. **Active to Retired Ratio** [(1a) / (4a)]	0.99	0.74

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Active Members

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Active Members by Age and Service

Years of Service at Valuation Date

Attained Age	0-4	5-9	10-14	15-19	20-25	25+	Total
15-24	13	1	0	0	0	0	14
25-29	33	7	0	0	0	0	40
30-34	8	19	2	0	0	0	29
35-39	5	20	7	3	0	0	35
40-44	6	7	7	3	5	0	28
45-49	4	16	11	4	6	2	43
50-54	4	13	10	6	14	8	55
55-59	3	6	3	2	6	3	23
60-64	4	5	1	1	1	5	17
65 and over	0	0	2	0	0	0	2
All Ages	80	94	43	19	32	18	286

Distribution of Average Annual Salaries by Age and Service

Years of Service at Valuation Date

Attained Age	0-4	5-9	10-14	15-19	20-25	25+	Average
15-24	$17,746	$54,769	$0	$0	$0	$0	$20,391
25-29	34,389	51,046	0	0	0	0	37,304
30-34	48,420	61,759	86,174	0	0	0	59,763
35-39	56,345	77,755	86,022	117,156	0	0	79,727
40-44	69,985	74,136	98,106	78,551	84,024	0	81,478
45-49	68,475	93,921	92,714	83,551	93,787	87,199	89,949
50-54	82,782	68,183	74,485	94,592	79,618	95,326	80,130
55-59	60,429	95,851	100,954	64,969	100,937	79,517	88,407
60-64	42,082	61,714	66,578	66,563	69,900	96,873	68,488
65 and over	0	0	90,010	0	0	0	90,010
All Ages	$42,615	$73,749	$87,800	$88,704	$86,657	$92,218	$70,753

Actuarial Data

As stated in the Actuarial Certification, the data which serves as the basis of this valuation has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and when they do occur, they generally do not have a material impact on the employer contribution rates.

Actuarial Methods

Funding Method

The actuarial funding method used for the Retirement Program is the Entry Age Normal Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percent of pay in each year from the age of hire (entry age) to the assumed retirement age. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

Amortization methods

The excess of the total actuarial accrued liability over the actuarial value of plan assets is called the unfunded actuarial accrued liability. Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability as a level percentage of assumed future payrolls. All changes in liability due to plan amendments, changes in actuarial assumptions, or changes in actuarial methodology are amortized separately over a 20-year period. All gains or losses are tracked and amortized over a rolling 30-year period with the exception of special gains and losses in fiscal years 2008-2009, 2009-2010 and 2010-2011. Each of these years' gains or losses will be isolated and amortized over fixed and declining 30 year periods (as opposed to the current rolling 30 year amortization). If a plan's accrued liability exceeds the actuarial value of assets, the annual contribution with respect to the total unfunded liability may not be less than the amount produced by a 30-year amortization of the unfunded liability.

Additional contributions will be required for any plan or pool if their cash flows hamper adequate funding progress by preventing the expected funded status on a market value of assets basis of the plan to either:

- Increase by at least 15% by June 30, 2043; or
- Reach a level of 75% funded by June 30, 2043

The necessary additional contribution will be obtained by changing the amortization period of the gains and losses prior to 2009 to a period which will result in the satisfaction of the above criteria. CalPERS actuaries will reassess the criteria above when performing each future valuation to determine whether or not additional contributions are necessary.

An exception to the funding rules above is used whenever the application of such rules results in inconsistencies. In these cases a "fresh start" approach is used. This simply means that the current unfunded actuarial liability is projected and amortized over a set number of years. As mentioned above, if the annual contribution on the total unfunded liability was less than the amount produced by a 30-year amortization of the unfunded liability, the plan actuary would implement a 30-year fresh start. However, in the case of a 30-year fresh start, just the unfunded liability not already in the (gain)/loss base (which already is amortized over 30 years) will go into the new fresh start base. In addition, a fresh start is needed in the following situations:

Non-valued Potential Additional Liabilities

The potential liability loss for a cost-of-living increase exceeding the 2.75% inflation assumption, and any potential liability loss from future member service purchases are not reflected in the valuation.

Miscellaneous Loading Factors

Credit for Unused Sick Leave

Benefit are increased by 1% for those plans with the provision providing Credit for Unused Sick Leave.

Conversion of Employer Paid Member Contributions (EPMC)

Final Average Salary is increased by the Employee Contribution Rate for those plans with the provision providing for the Conversion of Employer Paid Member Contributions (EPMC) during the final compensation period.

Norris Decision (Best Factors)

Employees hired prior to July 1, 1982 have projected benefit amounts increased in order to reflect the use of "Best Factors" in the calculation of optional benefit forms. This is due to a 1983 Supreme Court decision, known as the Norris decision, which required males and females to be treated equally in the determination of benefit amounts. Consequently, anyone already employed at that time is given the best possible conversion factor when optional benefits are determined. No loading is necessary for employees hired after July 1, 1982.

Termination Liability

The termination liabilities include a 7% contingency load. This load is for unforeseen improvements in mortality.

Demographic Assumptions

Pre-Retirement Mortality

Non-Industrial Death Rates vary by age and gender. Industrial Death rates vary by age. See sample rates in table below. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety Plans (except for Local Prosecutor safety members where the corresponding Miscellaneous Plan does not have the Industrial Death Benefit).

	Non-Industrial Death (Not Job-Related)		Industrial Death (Job-Related)
Age	Male	Female	Male and Female
20	0.00047	0.00016	0.00003
25	0.00050	0.00026	0.00007
30	0.00053	0.00036	0.00010
35	0.00067	0.00046	0.00012
40	0.00087	0.00065	0.00013
45	0.00120	0.00093	0.00014
50	0.00176	0.00126	0.00015
55	0.00260	0.00176	0.00016
60	0.00395	0.00266	0.00017
65	0.00608	0.00419	0.00018
70	0.00914	0.00649	0.00019
75	0.01220	0.00878	0.00020
80	0.01527	0.01108	0.00021

Miscellaneous Plans usually have Industrial Death rates set to zero unless the agency has specifically contracted for Industrial Death benefits. If so, each Non-Industrial Death rate shown above will be split into two components: 99% will become the Non-Industrial Death rate and 1% will become the Industrial Death rate.

Summary of Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in the following section of this Appendix.

	Coverage Group	
Benefit Provision	70001	70002
Benefit Formula	2.0% @ 55	2.5% @ 55
Social Security Coverage	No	No
Full/Modified	Full	Full
Final Average Compensation Period	12 mos.	12 mos.
Sick Leave Credit	Yes	Yes
Non-Industrial Disability	Standard	Standard
Industrial Disability	No	No
Pre-Retirement Death Benefits		
Optional Settlement 2W	No	No
1959 Survivor Benefit Level	Level 3	Level 3
Special	No	No
Alternate (firefighters)	No	No
Post-Retirement Death Benefits		
Lump Sum	$500	$500
Survivor Allowance (PRSA)	Yes	Yes
COLA	2%	2%
Employee Contributions		
Contractual Employer Paid	No	No

Description of CalPERS' Principal Plan Provisions

The following is a description of the principal plan provisions used in calculating costs and liabilities. We have indicated whether a plan provision is standard or optional. Standard benefits are applicable to all members while optional benefits vary among employers. Optional benefits that apply to a single period of time, such as Golden Handshakes, have not been included. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

Service Retirement

Eligibility
A CalPERS member becomes eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). For employees hired into a plan with the 1.5% at 65 formula, eligibility for service retirement is age 55 with at least 5 years of service.

Benefit
The Service Retirement benefit is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation.*

- The *benefit factor* depends on the benefit formula specified in your agency's contract. The table below shows the factors for each of the available formulas. Factors vary by the member's age at retirement. Listed are the factors for retirement at whole year ages:

Miscellaneous Plan Formulas

Retirement Age	1.5% at 65	2% at 60	2% at 55	2.5% at 55	2.7% at 55	3% at 60
50	0.5000%	1.092%	1.426%	2.0%	2.0%	2.0%
51	0.5667%	1.156%	1.522%	2.1%	2.14%	2.1%
52	0.6334%	1.224%	1.628%	2.2%	2.28%	2.2%
53	0.7000%	1.296%	1.742%	2.3%	2.42%	2.3%
54	0.7667%	1.376%	1.866%	2.4%	2.56%	2.4%
55	0.8334%	1.460%	2.0%	2.5%	2.7%	2.5%
56	0.9000%	1.552%	2.052%	2.5%	2.7%	2.6%
57	0.9667%	1.650%	2.104%	2.5%	2.7%	2.7%
58	1.0334%	1.758%	2.156%	2.5%	2.7%	2.8%
59	1.1000%	1.874%	2.210%	2.5%	2.7%	2.9%
60	1.1667%	2.0%	2.262%	2.5%	2.7%	3.0%
61	1.2334%	2.134%	2.314%	2.5%	2.7%	3.0%
62	1.3000%	2.272%	2.366%	2.5%	2.7%	3.0%
63	1.3667%	2.418%	2.418%	2.5%	2.7%	3.0%
64	1.4334%	2.418%	2.418%	2.5%	2.7%	3.0%
65 & Up	1.5000%	2.418%	2.418%	2.5%	2.7%	3.0%

Benefit
The Alternate Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit
Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 2%.

Improved Benefit
Employers have the option of providing an improved cost-of-living adjustment of 3%, 4% or 5%. An improved COLA is not available in conjunction with the 1.5% at 65 formula.

The cumulative adjustment may not be greater than the cumulative change in the Consumer Price Index since the date of retirement.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 80% of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

The percent contributed below the monthly compensation breakpoint is 0%.
The monthly compensation breakpoint is $0 for full and supplemental formula members and $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%

Employer Paid Member Contributions (EPMC)

The employer may choose to "pick-up" these contributions for the employees (Employer Paid Member Contributions or EPMC). An employer may also include Employee Cost Sharing in the contract, where employees contribute an additional percentage of compensation based on any optional benefit for which a contract amendment was made on or after January 1, 1979.

Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 and the contribution rate is 6% if members are not covered by Social Security. If members are covered by Social Security the offset is $513 and the contribution rate is 5%.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6% interest.

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 was required to provide this benefit if the members were not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2 and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level must choose the 4th or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2013-2014 employer contribution rates under two different discount rate scenarios. Shown below are the employer contribution rates assuming discount rates that are 1% lower and 1% higher than the current valuation discount rate. This analysis gives an indication of the potential required employer contribution rates if the PERF were to realize investment returns of 6.50% or 8.50% over the long-term.

This type of analysis gives the reader a sense of the long-term risk to the employer contribution rates.

2013-2014 Employer Contribution Rate			
As of June 30, 2011	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Employer Normal Cost	13.979%	9.643%	6.361%
Unfunded Rate Payment	28.003%	17.740%	9.638%
Total	41.982%	27.383%	15.999%

Glossary of Actuarial Terms

Accrued Liability *(also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability)*
The total dollars needed as of the valuation date to fund all benefits earned in the past for *current* members.

Actuarial Assumptions
Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods
Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include funding method, setting the length of time to fund the Accrued Liability and determining the Actuarial Value of Assets.

Actuarial Valuation
The determination, as of a valuation date, of the Normal Cost, Accrued liability, Actuarial Value of Assets and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Actuarial Value of Assets
The Actuarial Value of Assets used for funding purposes is obtained through an asset smoothing technique where investment gains and losses are partially recognized in the year they are incurred, with the remainder recognized in subsequent years.

This method helps to dampen large fluctuations in the employer contribution rate.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause", creating “bases” and each such base will be separately amortized and paid for over a specific period of time. This can be likened to a home mortgage that has 24 years of remaining payments and a second on that mortgage that has 10 years left. Each base or each mortgage note has its own terms (payment period, principal, etc.) but all bases are amortized using investment and payroll assumptions from the current valuation.

Generally in an actuarial valuation, the separate bases consist of changes in unfunded liability due to amendments, actuarial assumption changes, actuarial methodology changes, and gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

Amortization Period
The number of years required to pay off an Amortization Base.

Annual Required Contributions (ARC)
The employer's periodic required annual contributions to a defined benefit pension plan as set forth in GASB Statement No. 27, calculated in accordance with the plan assumptions. The ARC is determined by multiplying the employer contribution rate by the payroll reported to CalPERS for the applicable fiscal year. However, if this contribution is fully prepaid in a lump sum, then the dollar value of the ARC is equal to the Lump Sum Prepayment.

Discount Rate
The actuarial assumption that was called “investment return” in earlier CalPERS reports or “actuarial interest rate” in Section 20014 of the California Public Employees’ Retirement Law (PERL).

Entry Age
The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan or risk pool. In most cases, this is age of the member on their date of hire.

(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Entry Age Normal Cost Method

An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.

(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Fresh Start

A Fresh Start is the single amortization base created when multiple amortization bases are collapsed into one base and amortized over a new funding period.

Funded Status

A measure of how well funded a plan or risk pool is. Or equivalently, how "on track" a plan or risk pool is with respect to assets vs. accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets. A funded ratio based on the Actuarial Value of Assets indicates the progress toward fully funding the plan using the actuarial cost methods and assumptions. A funded ratio based on the Market Value of Assets indicates the short-term solvency of the plan.

GASB 27

Statement No. 27 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting for pensions.

Normal Cost

The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

Pension Actuary

A person who is responsible for the calculations necessary to properly fund a pension plan.

Prepayment Contribution

A payment made by the employer to reduce or eliminate the year's required employer contribution.

Present Value of Benefits (PVB)

The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Rolling Amortization Period

An amortization period that remains the same each year, rather than declining.

Superfunded

A condition existing when a plan's Actuarial Value of Assets exceeds its Present Value of Benefits. When this condition exists on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation may be waived.

Unfunded Liability

When a plan or pool's Actuarial Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Liability of the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.