1959 Survivor Benefit Program Actuarial Valuation

as of

June 30, 2011

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Actuarial Certification

Actuarial Certification

April 2012

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded position of the various levels of the 1959 Survivor Program. This valuation is based on the beneficiary and membership data provided to the Actuarial Office, the statement of assets provided by the CalPERS Fiscal Services Division, and the benefits provided under this program. It is our opinion that this valuation has been performed by qualified actuaries in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this program.

[redacted]

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Highlights and Executive Summary

Contents

This section contains the following topics:

Highlights & Executive Summary

Purpose of the Report

This actuarial valuation of the 1959 Survivor Program for Public Agency 1st, 2nd, 3rd, 4th and Indexed level and the State and Schools 5th level pools within the California Public Employees' Retirement System (CalPERS) was performed by CalPERS' staff actuaries as of June 30, 2011 in order to

- set forth the actuarial value of assets and liabilities of this program as of June 30, 2011;
- establish the actuarially required employer premiums for these pools within the program for the fiscal year July 1, 2012 through June 30, 2013; and
- provide actuarial information as of June 30, 2011 to the CalPERS Board of Administration.

Use of this report for other purposes may be inappropriate.

Funded Status of the Plan

Shown below are the Accrued Liability, Market Value of Assets, and Funded Ratio of all pools within the 1959 Survivor Benefit Program.

Plan	Accrued Liability[1]	Market Value of Assets (MVA)	Funded Ratio based on MVA
State 5th Level Pool	$ 134,973,458	$ 101,432,926	75.2%
Schools 5th Level Pool	$ 11,527,717	$ 57,578,035	499.5%
PA 1st Level Pool	$ 2,411,810	$ 33,183,801	1,375.9%
PA 2nd Level Pool	$ 2,125,178	$ 8,436,530	397.0%
PA 3rd Level Pool	$ 24,999,819	$ 85,495,710	342.0%
PA 4th Level Pool	$ 115,953,116	$ 133,276,491	114.9%
PA Indexed Level Pool	$ 15,665,106	$ 19,123,248	122.1%
Total	$307,656,204	$438,526,741	142.5%

1 – By definition, under the Term Insurance Method, the present value of future benefits and the accrued liability are equal. Under the Entry Age Normal Method, which is being used to fund the benefit in the Indexed Pool, the accrued liability is defined as the difference between the present value of future benefits and the present value of future normal costs.

Required Employer and Employee Monthly Premiums

The actuarially required employer and employee monthly premiums per covered member per month for the 1959 Survivor Program for the fiscal year July 1, 2012 through June 30, 2013 are shown below. The results for fiscal year July 1, 2011 through June 30, 2012 are shown for comparison. Except for the Public Agency Indexed Level pool, these monthly premiums are determined using a Modified Term Insurance funding method. Monthly premiums for the Public Agency Indexed Level pool are determined using the Entry Age Normal funding method.

Required Monthly Premiums

	2011-2012 Premium			2012-2013 Premium		
Plan	Employer	Employee	Total	Employer	Employee	Total
State 5th Level Pool*	$5.45	$5.45	$10.90	$5.45	$5.45	$10.90
Schools 5th Level Pool*,**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 1st Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 2nd Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 3rd Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 4th Level Pool**	$3.90	$2.00	$5.90	$4.00	$2.00	$6.00
PA Indexed Level Pool*	$3.20	$3.20	$6.40	$2.60	$2.60	$5.20

* Section 21581 of the California Public Employees' Retirement Law requires mandatory cost sharing when the total premium exceeds $4.00. Mandatory $2.00 member monthly premium required.

** Mandatory $2.00 member monthly premium required.

The required employee premium for the State 5th level pool will remain the same at $5.45 per member, per month (or $2.52 for biweekly paid members) for fiscal year 2012/2013. This is in accordance with Statute 21581(c) which specifies that when the total required premium (after amortization of surplus/unfunded liability) exceeds $4, the employer and the member shall evenly share the required monthly premium.

The required employee premium for the Indexed level pool will change from $3.20 to $2.60 per member, per month (or from $1.48 to $1.20 for biweekly paid members) for fiscal year 2012/2013. This is in accordance with Statute 21581(b) which specifies that when the total required premium (after amortization of surplus/unfunded liability) exceeds $4, the employer and the member shall evenly share the required monthly premium.

Employee required premiums for all of the other pools shall remain the same, $2.00, as in the prior year.

Changes Since Prior Valuation

Actuarial Assumptions – The investment return assumption was changed from 7.75% to 7.50% per year compounded annually.

Actuarial Method - There was no change in actuarial methods since the June 30, 2010 valuation.

Benefits - There was no change in the existing benefit levels in the program since the June 30, 2010 valuation other than the regular increase for the Indexed Level.

Supporting Exhibits

Contents

This section contains the following topics:

Comparison of Current and Prior Results

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

State 5th Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	79,587	77,714
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	267	272
Receiving Benefits	1,420	1,405
Total	1,687	1,677
Present Value of Benefits	$ 133,976,361	$ 134,973,458
Assets		
Actuarial Value (AVA)	$ 100,321,586	$ 101,098,846
Market Value (MVA)	$ 88,997,200	$ 101,432,926
(Unfunded Liability)/Excess Assets on AVA	$ (33,654,775)	$ (33,874,612)
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	$7.70	$7.60
After Amortization of (Unfunded Liability)/Excess Assets	$10.90	$10.90
After employer/employee premium sharing	$5.45	$5.45
Funded Ratio based on MVA	66.4%	75.2%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Schools 5th Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	10,203	9,811
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	17	19
Receiving Benefits	132	133
Total	149	152
Present Value of Benefits	$ 11,456,594	$ 11,527,717
Assets		
Actuarial Value (AVA)	$ 53,899,005	$ 56,894,114
Market Value (MVA)	$ 48,119,951	$ 57,578,035
(Unfunded Liability)/Excess Assets on AVA	$ 42,442,411	$ 45,366,397
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	$5.10	$5.00
After Amortization of (Unfunded Liability)/Excess Assets	$0.00	$0.00
After employer/employee premium sharing	$0.00	$0.00
Funded Ratio based on MVA	420.0%	499.5%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 1st Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	8,121	7,917
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	44	40
Receiving Benefits	83	91
Total	127	131
Present Value of Benefits	$ 2,227,779	$ 2,411,810
Assets		
Actuarial Value (AVA)	$ 30,302,636	$ 32,653,546
Market Value (MVA)	$ 27,145,916	$ 33,183,801
(Unfunded Liability)/Excess Assets on AVA	$ 28,074,857	$ 30,241,736
Required Employer Monthly Premium Per Member		
Total premium required	$ 1.40	$ 1.40
Premium required after Employee Contributions	$ 0.00	$ 0.00
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	1,218.5%	1,375.9%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 2nd Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	4,197	4,072
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	27	27
Receiving Benefits	66	68
Total	93	95
Present Value of Benefits	$ 2,084,000	$ 2,125,178
Assets		
Actuarial Value (AVA)	$ 7,839,589	$ 8,324,385
Market Value (MVA)	$ 7,007,527	$ 8,436,530
(Unfunded Liability)/Excess Assets on AVA	$ 5,755,589	$ 6,199,207
Required Employer Monthly Premium Per Member		
Total premium required	$ 1.80	$ 1.80
Premium required after Employee Contributions	$ 0.00	$ 0.00
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	336.3%	397.0%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 3rd Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	42,930	41,563
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	191	188
Receiving Benefits	473	492
Total	664	680
Present Value of Benefits	$ 24,263,435	$ 24,999,819
Assets		
Actuarial Value (AVA)	$ 79,897,971	$ 84,505,654
Market Value (MVA)	$ 71,301,395	$ 85,495,710
(Unfunded Liability)/Excess Assets on AVA	$ 55,634,536	$ 59,505,835
Required Employer Monthly Premium Per Member		
Total premium required	$ 2.70	$ 2.70
Premium required after Employee Contributions	$ 0.70	$ 0.70
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	293.9%	342.0%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 4th Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	72,679	70,451
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	260	264
Receiving Benefits	818	839
Total	1,078	1,103
Present Value of Benefits	$ 110,178,839	$ 115,953,166
Assets		
Actuarial Value (AVA)	$ 129,072,008	$ 132,669,218
Market Value (MVA)	$ 114,518,783	$ 133,276,491
(Unfunded Liability)/Excess Assets on AVA	$ 18,893,169	$ 16,716,102
Required Employer Monthly Premium Per Member		
Total premium required	$ 7.40	$ 7.40
Premium required after Employee Contributions	$ 5.40	$ 5.40
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	$ 3.90	$ 4.00
Funded Ratio based on MVA	103.9%	114.9%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency Indexed Level Pool

	June 30, 2010	June 30, 2011
Covered Active Members	10,543	10,252
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	28	28
Receiving Benefits	96	98
Total	124	126
Entry Age Normal Accrued Liability	$ 16,215,254	$ 15,665,106
Assets		
Actuarial Value (AVA)	$ 17,838,492	$ 18,931,485
Market Value (MVA)	$ 15,889,970	$ 19,123,248
(Unfunded Liability)/Excess Assets on AVA	$ 1,623,238	$ 3,266,379
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	$ 7.10	$ 7.20
After Amortization of (Unfunded Liability)/Excess Assets	$ 6.40	$ 5.20
After employer/employee premium sharing	$ 3.20	$ 2.60
Funded Ratio based on MVA	98.0%	122.1%

The following table develops the annual premiums required for 2012-2013 for the State 5th and Schools 5th Level Pools.

Development of Funding Requirements for State 5th and Schools 5th Level Pools

June 30, 2011 Annual Valuation of 1959 Survivor Program

	State 5th Level	School 5th Level
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$134,973,458	$11,527,717
b. Actuarial Value of Assets	$101,098,846	$56,894,114
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	$33,874,612	($45,366,397)
2) Development of Normal Cost		
a. Present Value of Benefits for 2007-2010 Deaths	$27,895,915	$2,361,764
b. Number of 2007-2010 Member Months	3,843,504	497,352
c. Total per member, per month 2011/2012 Term Insurance Normal Cost	$7.70	$5.10
d. Total per member, per month 2012/2013 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$7.60	$5.00
3) 2012 Projected Unfunded Liability		
a. 2011 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2012 [1(c)*1.075]	$36,415,208	($48,768,877)
b. Projected Normal Cost Accrual 2011-2012 with interest	$7,470,908	$618,781
c. Projected Employer Contributions 2011-2012 with interest	$5,163,388	$0
d. Projected Employee Contributions 2011-2012 with interest	$5,163,388	$238,523
e. Total Projected UAL/(Excess Assets) as of June 30, 2012 [3(a)+3(b)-3(c)-3(d)]	$33,559,339	($48,388,619)
4) 2012/2013 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$7.60	$5.00
b. Projected Active Members as of 6/30/2012	74,580	9,360
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$7,052,149	$582,279
d. Amortization of the UAL/(Excess Assets)	$2,740,596	($582,279)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$10.90	$0.00
f. Amortization Period	30-year	N/A
5) 2012/2013 Required Employer and Employee Premiums With Cost Sharing Provision		
a. Required Employee Premium per member, per month [maximum($2,4(e)/2)]	$5.45	$2.00
b. Required Employer Premium per member, per month [maximum($0,4(e)-5(a))]	$5.45	$0.00

The following table develops the annual premiums required for 2012-2013 for the Public Agency 1st and 2nd Level Pools.

Development of Funding Requirements for Public Agency 1st and 2nd Level Pools

June 30, 2011 Annual Valuation of 1959 Survivor Program

	Public Agency Level 1	Public Agency Level 2
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$2,411,810	$2,125,178
b. Actuarial Value of Assets	$32,653,546	$8,324,385
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($30,241,736)	($6,199,207)
2) Development of Normal Cost		
a. Present Value of Benefits for 2007-2010 Deaths[1]	$9,760,724	$12,200,905
b. Number of 2007-2010 Member Months[1]	6,798,204	6,798,204
c. Total per member, per month 2011/2012 Term Insurance Normal Cost	$1.40	$1.80
d. Total per member, per month 2012/2013 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$1.40	$1.80
3) 2012 Projected Unfunded Liability		
a. 2011 Unfunded Accrued Liability as of June 30, 2012 [1(c)*1.075]	($32,509,866)	($6,664,148)
b. Projected Normal Cost Accrual 2011-2012 with interest	$141,439	$92,850
c. Projected Employer Contributions 2011-2012 with interest	$0	$0
d. Projected Employee Contributions 2011-2012 with interest	$194,802	$99,435
e. Total Projected UAL as of June 30, 2012 [3(a)+3(b)-3(c)-3(d)]	($32,563,229)	($6,670,734)
4) 2012/2013 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$1.40	$1.80
b. Projected Active Members as of 6/30/2012	7,740	3,920
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$134,820	$87,790
d. Amortization of the UAL/(Excess Assets)	($134,820)	($87,790)
e. Total Required Contribution Per Member, Per Month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$0.00	$0.00
f. Amortization Period	N/A	N/A
5) 2012/2013 Required Employer and Employee Premiums		
a. Required Employee Premium per member, per month	$2.00	$2.00
b. Required Employer Premium per member, per month [maximum($0,4(e)-5(a))]	$0.00	$0.00

Notes:

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data. This is further explained in the Actuarial Funding Methods section.

The following table develops the annual premiums required for 2012-2013 for the Public Agency 3rd and 4th Level Pools.

Development of Funding Requirements for Public Agency 3rd and 4th Level Pools

June 30, 2011 Annual Valuation of 1959 Survivor Program

	Public Agency Level 3	Public Agency Level 4
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$24,999,819	$115,953,116
b. Actuarial Value of Assets	$84,505,654	$132,669,218
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($59,505,835)	($16,716,102)
2) Development of Normal Cost		
a. Present Value of Benefits for 2007-2010 Deaths[1]	$18,979,185	$51,514,931
b. Number of 2007-2010 Member Months[1]	6,798,204	6,798,204
c. Total per member, per month 2011/2012 Term Insurance Normal Cost	$2.70	$7.40
d. Total per member, per month 2012/2013 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$2.70	$7.40
3) 2012 Projected Unfunded Liability		
a. 2011 Unfunded Accrued Liability as of June 30, 2012 [1(c)*1.075]	($63,968,773)	($17,969,810)
b. Projected Normal Cost Accrual 2011-2012 with interest	$1,427,769	$6,599,991
c. Projected Employer Contributions 2011-2012 with interest	$0	$3,352,497
d. Projected Employee Contributions 2011-2012 with interest	$1,019,524	$1,719,229
e. Total Projected UAL as of June 30, 2012 [3(a)+3(b)-3(c)-3(d)]	($63,560,528)	($16,441,545)
4) 2012/2013 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$2.70	$7.40
b. Projected Active Members as of 6/30/2012	40,380	67,730
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$1,356,487	$6,235,888
d. Amortization of the UAL/(Excess Assets)	($1,356,487)	($1,342,685)
e. Total Required Contribution Per Member, Per Month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$0.00	$6.00
f. Amortization Period	N/A	30-year
5) 2012/2013 Required Employer and Employee Premiums		
a. Required Employee Premium per member, per month	$2.00	$2.00
b. Required Employer Premium per member, per month [maximum($0,4(e)-5(a))]	$0.00	$4.00

Notes:

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data. This is further explained in the Actuarial Funding Methods section.

The following table develops the annual premiums required for 2012-2013 for the Public Agency Indexed Level Pools.

Development of Funding Requirements for Public Agency Indexed Level Pool

June 30, 2011 Annual Valuation of 1959 Survivor Program

	Public Agency Indexed Level
1) Development of Unfunded Liability	
a. Present Value of Future Benefits for Active Members	$9,937,227
b. Present Value of Future Benefits for Current Survivors	$11,787,743
c. Total Present Value of Future Benefits [1(a)+1(b)]	$21,724,970
d. Present Value of Future Normal Costs	$6,059,864
e. Entry Age Normal Total Accrued Liability [1(c)-1(d)]	$15,665,106
f. Actuarial Value of Assets	$18,931,485
g. Unfunded Accrued Liability/(Excess Assets) [1(e)-1(f)]	($3,266,379)
2) Development of Normal Cost	
a. Required Entry Age Normal Cost	$880,884
b. Active Members as of June 30, 2011	10,252
c. Total per member per month Entry Age Normal Cost [2(a)/2(b)*12], rounded to nearest $0.10	$7.20
3) 2012 Projected Unfunded Liability	
a. 2011 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2012 [1(g)*1.075]	($3,511,357)
b. Projected Normal Cost Accrual 2011-2012 with interest	$945,398
c. Projected Employer Contributions 2011-2012 with interest	$405,147
d. Projected Employee Contributions 2011-2012 with interest	$405,147
e. Total Projected UAL as of June 30, 2012 [3(a)+3(b)-3(c)-3(d)]	($3,376,254)
4) 2012/2013 Required Contribution	
a. Required Normal Cost per member, per month [2(c)]	$7.20
b. Projected Active Members as of June 30, 2012	10,100
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$904,772
d. Amortization of the UAL/(Excess Assets)	($275,719)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$5.20
f. Amortization Period	30-year
5) 2012/2013 Employer and Employee Premiums with Cost Sharing Provision	
a. Required Employee Premium per member, per month [maximum(2,4(e)/2)]	$2.60
b. Required Employer Premium per member, per month [maximum(0,4(e)-5(a))]	$2.60

Gain/(Loss) Analysis 6/30/2010 – 6/30/2011

State 5th Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the State 5th Level Pool.

Amounts as of 6/30/2010	
1) Present Value of Benefits	$ 133,976,361
2) Actuarial Value of Assets	100,321,586
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	33,654,775
Amounts During the Period 6/30/2010 – 6/30/2011	
4) Expected Claims for the Fiscal Year	7,314,497
5) Employer and Employee Premiums Collected	9,162,816
6) Benefit Payments	(15,927,116)
7) Net Liabilities Transferred into the State 5th level pool	0
8) Net Assets Transferred into the State 5th level pool	0
Expected Amounts as of 6/30/2011	
9) Change in Accrued Liability due to Assumption Change	2,531,735
10) Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}] + (9)$	137,951,133
11) Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	101,074,983
12) Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	36,876,150
Amounts as of 6/30/2011	
13) Present Value of Benefits	134,973,458
14) Actuarial Value of Assets	101,098,846
15) Unfunded Liability/(Excess Assets) [(13)-(14)]	33,874,612
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011	
16) Liability Gain/(Loss) [(10) – (13)]	2,977,675
17) Asset Gain/(Loss) [(14) – (11)]	23,863
18) Total Gain/(Loss) [(16) + (17)]	$ 3,001,537

Gain/(Loss) Analysis 6/30/2010 – 6/30/2011

Schools 5th Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Schools 5th Level Pool.

Amounts as of 6/30/2010	
1) Present Value of Benefits	$ 11,456,594
2) Actuarial Value of Assets	53,899,005
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(42,442,411)
Amounts During the Period 6/30/2010 – 6/30/2011	
4) Expected Claims for the Fiscal Year	613,629
5) Employer and Employee Premiums Collected	234,337
6) Benefit Payments	(1,420,159)
7) Net Liabilities Transferred into the Schools 5th level pool	0
8) Net Assets Transferred into the Schools 5th level pool	0
Expected Amounts as of 6/30/2011	
9) Change in Accrued Liability due to Assumption Change	200,544
10) Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}] + (9)$	11,707,824
11) Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	56,845,263
12) Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(45,137,438)
Amounts as of 6/30/2011	
13) Present Value of Benefits	11,527,717
14) Actuarial Value of Assets	56,894,114
15) Unfunded Liability/(Excess Assets) [(13)-(14)]	(45,366,397)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011	
16) Liability Gain/(Loss) [(10) – (13)]	180,107
17) Asset Gain/(Loss) [(14) – (11)]	48,851
18) Total Gain/(Loss) [(16) + (17)]	$ 228,959

Gain/(Loss) Analysis 6/30/2010 – 6/30/2011

Public Agency 1st Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Public Agency 1st Level Pool.

Amounts as of 6/30/2010	
1) Present Value of Benefits	$ 2,227,779
2) Actuarial Value of Assets	30,302,636
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(28,074,857)
Amounts During the Period 6/30/2010 – 6/30/2011	
4) Expected Claims for the Fiscal Year	135,681
5) Employer and Employee Premiums Collected	194,638
6) Benefit Payments	(228,760)
7) Net Liabilities Transferred into the 1st level pool	0
8) Net Assets Transferred into the 1st level pool	0
Expected Amounts as of 6/30/2011	
9) Change in Accrued Liability due to Assumption Change	49,332
10) Expected Present Value of Benefits [(1) * 1.0775 + ((4) + (6) + (7)) * $(1.0775)^{1/2}$] + (9)	2,353,146
11) Expected Actuarial Value of Assets [(2) * 1.0775 + ((5) + (6) + (8)) * $(1.0775)^{1/2}$]	32,615,671
12) Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(30,262,525)
Amounts as of 6/30/2011	
13) Present Value of Benefits	2,411,810
14) Actuarial Value of Assets	32,653,546
15) Unfunded Liability/(Excess Assets) [(13)-(14)]	(30,241,736)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011	
16) Liability Gain/(Loss) [(10) – (13)]	(58,664)
17) Asset Gain/(Loss) [(14) – (11)]	37,875
18) Total Gain/(Loss) [(16) + (17)]	$ (20,789)

Gain/(Loss) Analysis 6/30/2010 – 6/30/2011

Public Agency 2nd Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Public Agency 2nd Level Pool.

Amounts as of 6/30/2010		
1)	Present Value of Benefits	$ 2,084,000
2)	Actuarial Value of Assets	7,839,589
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(5,755,589)
Amounts During the Period 6/30/2010 – 6/30/2011		
4)	Expected Claims for the Fiscal Year	87,321
5)	Employer and Employee Premiums Collected	98,329
6)	Benefit Payments	(224,320)
7)	Net Liabilities Transferred into the 2nd level pool	0
8)	Net Assets Transferred into the 2nd level pool	0
Expected Amounts as of 6/30/2011		
9)	Change in Accrued Liability due to Assumption Change	44,032
10)	Expected Present Value of Benefits [(1) * 1.0775 + ((4) + (6) + (7)) * $(1.0775)^{1/2}$] + (9)	2,147,333
11)	Expected Actuarial Value of Assets [(2) * 1.0775 + ((5) + (6) + (8)) * $(1.0775)^{1/2}$]	8,316,375
12)	Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(6,169,042)
Amounts as of 6/30/2011		
13)	Present Value of Benefits	2,125,178
14)	Actuarial Value of Assets	8,324,385
15)	Unfunded Liability/(Excess Assets) [(13)-(14)]	(6,199,207)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011		
16)	Liability Gain/(Loss) [(10) – (13)]	22,155
17)	Asset Gain/(Loss) [(14) – (11)]	8,010
18)	Total Gain/(Loss) [(16) + (17)]	$ 30,165

Gain/(Loss) Analysis 6/30/2010 - 6/30/2011

Public Agency 3rd Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Public Agency 3rd Level Pool.

Amounts as of 6/30/2010		
1)	Present Value of Benefits	$ 24,263,435
2)	Actuarial Value of Assets	79,897,971
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(55,634,536)
Amounts During the Period 6/30/2010 - 6/30/2011		
4)	Expected Claims for the Fiscal Year	1,383,995
5)	Employer and Employee Premiums Collected	996,089
6)	Benefit Payments	(2,554,980)
7)	Net Liabilities Transferred into the 3rd level pool	0
8)	Net Assets Transferred into 3rd level pool	(35,603)
Expected Amounts as of 6/30/2011		
9)	Change in Accrued Liability due to Assumption Change	508,135
10)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}] + (9)$	25,436,473
11)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	84,434,936
12)	Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(58,998,463)
Amounts as of 6/30/2011		
13)	Present Value of Benefits	24,999,819
14)	Actuarial Value of Assets	84,505,654
15)	Unfunded Liability/(Excess Assets) [(13)-(14)]	(59,505,835)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011		
16)	Liability Gain/(Loss) [(10) – (13)]	436,654
17)	Asset Gain/(Loss) [(14) – (11)]	70,718
18)	Total Gain/(Loss) [(16) + (17)]	$ 507,372

Gain/(Loss) Analysis 6/30/2010 - 6/30/2011

Public Agency 4th Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Public Agency 4th Level Pool.

Amounts as of 6/30/2010		
1)	Present Value of Benefits	$ 110,178,839
2)	Actuarial Value of Assets	129,072,008
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(18,893,169)
Amounts During the Period 6/30/2010 – 6/30/2011		
4)	Expected Claims for the Fiscal Year	6,372,148
5)	Employer and Employee Premiums Collected	5,876,399
6)	Benefit Payments	(12,124,988)
7)	Net Liabilities Transferred into the 4th level pool	0
8)	Net Assets Transferred into the 4th level pool	35,603
Expected Amounts as of 6/30/2011		
9)	Change in Accrued Liability due to Assumption Change	2,345,904
10)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}] + (9)$	115,092,000
11)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	132,625,842
12)	Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(17,533,842)
Amounts as of 6/30/2011		
13)	Present Value of Benefits	115,953,116
14)	Actuarial Value of Assets	132,669,218
15)	Unfunded Liability/(Excess Assets) [(13)-(14)]	(16,716,102)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011		
16)	Liability Gain/(Loss) [(10) – (13)]	(861,116)
17)	Asset Gain/(Loss) [(14) – (11)]	43,377
18)	Total Gain/(Loss) [(16) + (17)]	$ (817,740)

Gain/(Loss) Analysis 6/30/2010 - 6/30/2011

Public Agency Indexed Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2010 and June 30, 2011 for the Public Agency Indexed Level Pool.

Amounts as of 6/30/2010		
1)	Accrued Liability	$ 16,215,254
2)	Actuarial Value of Assets	17,838,492
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(1,623,238)
Amounts During the Period 6/30/2010 – 6/30/2011		
4)	Normal Cost for the Fiscal Year	879,629
5)	Employer and Employee Premiums Collected	697,429
6)	Benefit Payments	(989,510)
7)	Net Liabilities Transferred into the Indexed Level pool	0
8)	Net Assets Transferred into the Indexed Level pool	0
Expected Amounts as of 6/30/2011		
9)	Change in Accrued Liability due to Assumption Change	291,646
10)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}] + (9)$	17,649,522
11)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	18,917,787
12)	Expected Unfunded Liability/(Excess Assets) [(10)-(11)]	(1,268,265)
Amounts as of 6/30/2011		
13)	Present Value of Benefits	15,665,106
14)	Actuarial Value of Assets	18,931,485
15)	Unfunded Liability/(Excess Assets) [(13)-(14)]	(3,266,379)
Gain/(Loss) for the Period 6/30/2010 – 6/30/2011		
16)	Liability Gain/(Loss) [(10) – (13)]	1,984,416
17)	Asset Gain/(Loss) [(14) – (11)]	13,697
18)	Total Gain/(Loss) [(16) + (17)]	$ 1,998,114

Summary of Assets

Contents

This section contains the following topics:

Reconciliation of the Market Value of Assets and Development of the Actuarial Value of Assets

State 5th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the State 5th Level Pool between June 30, 2010 and June 30, 2011.

1) Beginning Balance 6/30/2010	$ 88,997,200
2) Contributions (Employer and Employee) received during 2010-2011	9,162,816
3) Benefit Payments during 2010-2011	(15,927,116)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	19,200,026
6) Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 101,432,926

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the State 5th Level Pool for the valuation date June 30, 2011.

1) Actuarial Value of Assets as of 6/30/2010	$ 100,321,586
2) Contributions (Employer and Employee) received during 2010-2011	9,162,816
3) Benefit Payments during 2010-2011	(15,927,116)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$	7,517,697
6) Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 101,074,983
7) Market Value of Assets as of 6/30/2011	$ 101,432,926
8) Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$ 101,098,846
9) Ratio of Actuarial Value to Market Value of Assets	99.67%

Schools 5th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Schools 5th Level Pool between June 30, 2010 and June 30, 2011.

1) Beginning Balance 6/30/2010	$ 48,119,951
2) Contributions (Employer and Employee) received during 2010-2011	234,337
3) Benefit Payments during 2010-2011	(1,420,159)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	10,643,906
6) Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 57,578,035

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Schools 5th Level Pool for the valuation date June 30, 2011.

1) Actuarial Value of Assets as of 6/30/2010	$ 53,899,005
2) Contributions (Employer and Employee) received during 2010-2011	234,337
3) Benefit Payments during 2010-2011	(1,420,159)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$	4,132,080
6) Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 56,845,263
7) Market Value of Assets as of 6/30/2011	$ 57,578,035
8) Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$ 56,894,114
9) Ratio of Actuarial Value to Market Value of Assets	98.81%

Public Agency 1st Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 1st Level Pool between June 30, 2010 and June 30, 2011.

1)	Beginning Balance 6/30/2010	$ 27,145,916
2)	Contributions (Employer and Employee) received during 2010-2011	194,638
3)	Benefit Payments during 2010-2011	(228,760)
4)	Net Transfer of Assets into and out of this pool	0
5)	Investment Earnings credited	6,072,007
6)	Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 33,183,801

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 1st Level Pool for the valuation date June 30, 2011.

1)	Actuarial Value of Assets as of 6/30/2010	$ 30,302,636
2)	Contributions (Employer and Employee) received during 2010-2011	194,638
3)	Benefit Payments during 2010-2011	(228,760)
4)	Net Transfer of Assets into and out of this pool	0
5)	Expected investment earnings during fiscal 2010-2011 [(1) * 0.0775 + ((2)+(3)+(4)) * $(1.0775^{1/2} - 1)$]	2,347,157
6)	Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 32,615,671
7)	Market Value of Assets as of 6/30/2011	$ 33,183,801
8)	Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$ 32,653,546
9)	Ratio of Actuarial Value to Market Value of Assets	98.40%

Public Agency 2nd Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 2nd Level Pool between June 30, 2010 and June 30, 2011.

1)	Beginning Balance 6/30/2010	$ 7,007,527
2)	Contributions (Employer and Employee) received during 2010-2011	98,329
3)	Benefit Payments during 2010-2011	(224,320)
4)	Net Transfer of Assets into and out of this pool	0
5)	Investment Earnings credited	1,554,994
6)	Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 8,436,530

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 2nd Level Pool for the valuation date June 30, 2011.

1)	Actuarial Value of Assets as of 6/30/2010	$ 7,839,589
2)	Contributions (Employer and Employee) received during 2010-2011	98,329
3)	Benefit Payments during 2010-2011	(224,320)
4)	Net Transfer of Assets into and out of this pool	0
5)	Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$	602,777
6)	Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 8,316,375
7)	Market Value of Assets as of 6/30/2011	$ 8,436,530
8)	Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$ 8,324,385
9)	Ratio of Actuarial Value to Market Value of Assets	98.67%

Public Agency 3rd Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 3rd Level Pool between June 30, 2010 and June 30, 2011.

1)	Beginning Balance 6/30/2010	$ 71,301,395
2)	Contributions (Employer and Employee) received during 2010-2011	996,089
3)	Benefit Payments during 2010-2011	(2,554,980)
4)	Net Transfer of Assets into and out of this pool	(35,603)
5)	Investment Earnings credited	15,788,809
6)	Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 85,495,710

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 3rd Level Pool for the valuation date June 30, 2011.

1)	Actuarial Value of Assets as of 6/30/2010	$ 79,897,971
2)	Contributions (Employer and Employee) received during 2010-2011	996,089
3)	Benefit Payments during 2010-2011	(2,554,980)
4)	Net Transfer of Assets into and out of this pool	(35,603)
5)	Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$	6,131,459
6)	Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 84,434,936
7)	Market Value of Assets as of 6/30/2011	$ 85,495,710
8)	Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$ 84,505,654
9)	Ratio of Actuarial Value to Market Value of Assets	98.84%

Public Agency 4th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 4th Level Pool between June 30, 2010 and June 30, 2011.

1)	Beginning Balance 6/30/2010	$ 114,518,783
2)	Contributions (Employer and Employee) received during 2010-2011	5,876,399
3)	Benefit Payments during 2010-2011	(12,124,988)
4)	Net Transfer of Assets into and out of this pool	35,603
5)	Investment Earnings credited	24,970,694
6)	Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$133,276,491

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 4th Level Pool for the valuation date June 30, 2011.

1)	Actuarial Value of Assets as of 6/30/2010	$ 129,072,008
2)	Contributions (Employer and Employee) received during 2010-2011	5,876,399
3)	Benefit Payments during 2010-2011	(12,124,988)
4)	Net Transfer of Assets into and out of this pool	35,603
5)	Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$	9,766,820
6)	Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 132,625,842
7)	Market Value of Assets as of 6/30/2011	$133,276,491
8)	Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$132,669,218
9)	Ratio of Actuarial Value to Market Value of Assets	99.54%

Public Agency Indexed Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency Indexed Level Pool between June 30, 2010 and June 30, 2011.

1)	Beginning Balance 6/30/2010	$ 15,889,970
2)	Contributions (Employer and Employee) received during 2010-2011	697,429
3)	Benefit Payments during 2010-2011	(989,510)
4)	Net Transfer of Assets into and out of this pool	0
5)	Investment Earnings credited	3,525,359
6)	Ending Balance 6/30/2011 [(1)+(2)+(3)+(4)+(5)]	$ 19,123,248

Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency Indexed Level Pool for the valuation date June 30, 2011.

1)	Actuarial Value of Assets as of 6/30/2010	$ 17,838,492
2)	Contributions (Employer and Employee) received during 2010-2011	697,429
3)	Benefit Payments during 2010-2011	(989,510)
4)	Net Transfer of Assets into and out of this pool	0
5)	Expected investment earnings during fiscal 2010-2011 $[(1) * 0.0775 + ((2) + (3) + (4)) * (1.0775^{1/2} - 1)]$	1,371,376
6)	Expected Actuarial Value of Assets as of 6/30/2011 [(1) + (2) + (3) + (4) + (5)]	$ 18,917,787
7)	Market Value of Assets as of 6/30/2011	$ 19,123,248
8)	Actuarial Value of Assets as of 6/30/2011 [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	$18,931,485
9)	Ratio of Actuarial Value to Market Value of Assets	99.00 %

Appendix A - Statement of Actuarial Methods and Assumptions

Actuarial Funding Method for Public Agency 1st, 2nd, 3rd and 4th Level, and State and Schools 5th Level Pools

The actuarial funding method used, as provided in State statute for public agency 1st, 2nd, 3rd and 4th level, and State and Schools 5th level pools, is called the Term Insurance method. This is a terminal funding arrangement with no pre-funding of the survivor benefits payable on account of deaths expected to occur beyond those in the coming year.

The Normal Cost for the year is equal to the Expected Claims (present value of benefits arising from deaths) that will occur in the coming fiscal year. The expected claims for the coming fiscal year is determined as the expected claim per member, per month multiplied by the expected member months for the coming fiscal year. The normal cost (or expected claims) per member, per month for the coming fiscal year is equal to a weighted average of the prior year and current year normal cost. Specifically, the current year's normal cost is calculated as the present value of member deaths for the past 4 years divided by the total number of members exposed to the death benefit over the same period. Then the normal cost (expected claims) for the coming year is simply 25% of the current year's normal cost and 75% of the prior year's normal cost. The reason for this methodology is that when new deaths occur each year, it is often unknown which benefit will ultimately apply (i.e. 1957 Survivor, Industrial Death, Pre-Retirement Option 2 or 1959 Survivor). Many times, new deaths are initially placed under the 1959 Survivor roll, but ultimately are reclassified to another roll some time later. This can create extreme volatility in the normal cost calculation between valuation years, especially for smaller pools.

The consequence of this approach is that very little weight is given to the most recent year's data and more weight is given to previous years. In fact, as this methodology matures or reaches a steady state, all data from the past would have some impact on the calculated normal cost. The following matrix shows ultimate weights for the past ten year's data as the methodology approaches its steady state:

Data t years ago	Weights
1	6.3%
2	10.9
3	14.5
4	17.1
5	12.8
6	9.6
7	7.2
8	5.4
9	4.1
10	3.0

For Public Agency 1st, 2nd, 3rd and 4th Levels, the Present Value of Benefits for 2007-2010 Deaths for each level are calculated as if all members of all four levels who died from 2007-2010 were members of that particular level.

The Accrued Liability is equal to the Present Value of Benefits payable to current survivors. If the Accrued Liability exceeds the Actuarial Value of Assets, the difference is called the Unfunded Liability. On the other hand, if the Actuarial Value of Assets exceeds the Accrued Liability, the difference is called Excess Assets.

The required employer monthly premium is the total required monthly premium less the $2.00 per month member contributions as required by State Statute Section 21581. For all levels, existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, for the State and Schools 5th Level pool, if the total required monthly premium after amortization of excess assets exceeds $4, the member and the employer shall evenly share the required monthly premium. For the current valuation date, the unfunded liability for the State 5th Level pool was amortized over a 30-year period. Excess assets for the Schools 5th Level pool, and Public Agency 1st, 2nd, and 3rd Level pools were sufficient to offset required employer contributions indefinitely, based on June 30, 2011 data and assumptions. Excess assets for the Public Agency 4th Level were amortized over a 30-year period, and are not sufficient to fully offset the required employer contribution. The resulting employer contribution for the 4th Level is $4.00 per covered member per month.

Actuarial Funding Method for Public Agency Indexed Level Pool

The funding method used for the Public Agency Indexed Level pool is the Entry Age Normal method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces an annual cost that increases by approximately 2% in each year.

The Normal Cost for the Public Agency Indexed Level pool is the portion of the total Entry Age Normal Cost, as described in the preceding paragraph that is allocated to the current fiscal year. Since there is no cost allocated to the current fiscal year for those already receiving benefits or are in a deferred status, only active members have a Normal Cost. The population demographics, excluding population growth, are assumed to remain stable for purposes of projecting the Normal Cost to the year for which the contribution requirement is being determined.

The Accrued Liability is equal to the Present Value of Future Benefits for both current survivors and active members, less the Present Value of Future Normal Costs.

The total required monthly premium is the sum of the individual Normal Costs divided by the number of member months. The required employer monthly premium is the total required monthly premium less the $2.00 per month member contributions as required by State Statute Section 21581. Existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, if the total required monthly premium after amortization of excess assets exceeds $4.00, the member and the employer shall evenly share the required monthly premium. Excess assets for the Public Agency Indexed Level are amortized over a 30-year period. The resulting employer contribution for the Indexed Level is $2.60 per covered member per month.

Asset Valuation Method

In order to dampen the effect of short term market value fluctuations on employer contribution rates, the following asset smoothing technique is used. First, an Expected Value of Assets is computed by bringing forward the prior year's Actuarial Value of Assets and the contributions received and benefits paid during the year at the assumed actuarial rate of return. The Actuarial Value of Assets is then computed as the Expected Value of Assets plus one-fifteenth of the difference between the actual Market Value of Assets and Expected Value of Assets as of the valuation date. However, in no case will the Actuarial Value of Assets be less than 80% nor greater than 120% of the actual Market Value of Assets.

Method for Projecting Active Counts

In the past, actuarial staff has found that two particular methods have worked well in predicting future active member counts for the pools. Projected counts are necessary to determine employer premiums. The two methods that are normally used are linear trend or autoregressive models. For this valuation year, we will continue to use these models for the Public Agency Pools. They continue to model slow and even declining growth in the Levels 1, 2 and 3 pools and less positive growth in Level 4 and Indexed. This is to be expected, since the first three levels are closed to new entrants and Levels 4 and Indexed are still open to amending and new contracting.

These methods when applied to the State and Schools Pools are also predicting less positive growth. This is consistent with the current state of the economy, current hiring practices of the State and the fact that new migration into and out of these pools do not take place.

Actuarial Assumptions

The actuarial assumptions used in this valuation include the investment return rate and the mortality rates for current beneficiaries. These assumptions are shown below. Actual mortality rates for active members of all pools combined are shown in Appendix 3 and are used in the calculation of the annual normal costs, except for the Public Agency Indexed Level.

Economic Assumptions:

Investment Return	7.50% compounded annually (net of administrative expenses).

Demographic Assumptions:

The following table shows mortality rates for the 1959 Survivor Program by age and sex.

Attained Age	Male Mortality Rate	Female Mortality Rate
20	.0004	.0003
25	.0006	.0003
30	.0007	.0003
35	.0008	.0004
40	.0009	.0006
45	.0013	.0009
50	.0024	.0013
55	.0047	.0024
60	.0072	.0043
65	.0107	.0078
70	.0168	.0124
75	.0308	.0207
80	.0527	.0375
85	.0978	.0701
90	.1675	.1240
95	.2566	.2156
100	.3455	.3188
105	.5853	.5609
110	1.0000	1.0000

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level

The Public Agency Indexed Level's Accrued Liability and Entry Age Normal cost for active members are calculated based on the actuarial assumptions for our Public Agency miscellaneous 2% @ 55 and police 2% @ 50 pension plans. The final valuation results equals the sum of the results valued on the basis of a miscellaneous 2% @ 55 plan plus the results valued on the basis of a police 2% @ 50 plan, where all miscellaneous employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using miscellaneous 2% @ 55 assumptions, and all safety employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using police 2% @ 50 assumptions.
The actuarial assumptions for each of these plans are as follows:

Eligible Survivor Status

For active members of both the Miscellaneous and Safety Police plans, the probability of having eligible survivor(s) at the date of death is assumed according to the following table:

Age at Death	Percent having Eligible Survivor(s)
Age 20 and under	30%
Between ages 21 and 24	50%
Between ages 25 and 29	70%
Between ages 30 and 39	90%
Between ages 40 and 49	95%
Between ages 50 and 54	90%
Age 55 and above	85%

Average claims are developed at every age using actual experience from the program. These average claims are then multiplied by the percentages in the above table. The results are used to estimate expected claims in the active population.

Benefit amounts and Present Value of benefits were based on average claim experience. A sample of the average claim experience is shown in the table below:

Age at Death	Present Value of Average Claim at the Time of Death*
20 and below	$25,901
25	$86,136
30	$120,232
35	$114,938
40	$107,691
45	$91,864
50	$73,882
55	$61,283
60	$57,360
65	$57,134
70	$58,198
75	$56,619
80 and above	$46,938

Average claims were calculated using actual experience from the 1959 Survivor program and smoothed using a polynomial regression model.

*Values are based on an initial benefit of $500/$1,000/$1,500 for one, two, or three survivors, respectively. This was the benefit level on June 30, 2000, when the Indexed Level first became effective. The valuation program increases these amounts by 2% per year up to the current valuation year.

Public Agency Miscellaneous 2% @ 55

Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability

Rates vary by age and sex. See sample rates in table below.

	Male		Female	
Attained Age	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00010	0.00014	0.00010
30	0.00038	0.00021	0.00021	0.00020
35	0.00054	0.00063	0.00031	0.00088
40	0.00077	0.00145	0.00046	0.00164
45	0.00110	0.00252	0.00068	0.00243
50	0.00156	0.00331	0.00102	0.00311
55	0.00221	0.00366	0.00151	0.00306
60	0.00314	0.00377	0.00226	0.00253

Service Retirement

Rates vary by age and service. See table sample below.

	Service Retirement Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0150	0.0200	0.0240	0.0290	0.0330	0.0390
51	0.0130	0.0160	0.0200	0.0240	0.0270	0.0330
52	0.0140	0.0180	0.0220	0.0270	0.0300	0.0360
53	0.0170	0.0220	0.0270	0.0320	0.0370	0.0430
54	0.0270	0.0340	0.0410	0.0490	0.0560	0.0670
55	0.0500	0.0640	0.0780	0.0940	0.1070	0.1270
56	0.0450	0.0570	0.0690	0.0830	0.0950	0.1130
57	0.0480	0.0610	0.0740	0.0900	0.1020	0.1220
58	0.0520	0.0660	0.0800	0.0970	0.1100	0.1310
59	0.0600	0.0760	0.0920	0.1110	0.1270	0.1510
60	0.0720	0.0920	0.1120	0.1340	0.1530	0.1820
61	0.0890	0.1130	0.1370	0.1650	0.1880	0.2240
62	0.1280	0.1620	0.1970	0.2370	0.2700	0.3220
63	0.1290	0.1640	0.1990	0.2390	0.2730	0.3250
64	0.1160	0.1480	0.1800	0.2160	0.2470	0.2940
65	0.1740	0.2210	0.2690	0.3230	0.3690	0.4390
66	0.1350	0.1710	0.2080	0.2500	0.2850	0.3400
67	0.1330	0.1690	0.2060	0.2470	0.2820	0.3360
68	0.1180	0.1500	0.1820	0.2190	0.2500	0.2970
69	0.1160	0.1470	0.1790	0.2150	0.2460	0.2930
70	0.1380	0.1760	0.2140	0.2570	0.2930	0.3490

Public Agency Miscellaneous 2% @ 55 (continued)

Termination with Refund

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Refund — Entry Age 20	25	30	35	40	45
0	0.1742	0.1674	0.1606	0.1537	0.1468	0.1400
1	0.1545	0.1477	0.1409	0.1339	0.1271	0.1203
2	0.1348	0.1280	0.1212	0.1142	0.1074	0.1006
3	0.1151	0.1083	0.1015	0.0945	0.0877	0.0809
4	0.0954	0.0886	0.0818	0.0748	0.0680	0.0612
5	0.0212	0.0193	0.0174	0.0155	0.0136	0.0116
10	0.0138	0.0121	0.0104	0.0088	0.0071	0.0055
15	0.0060	0.0051	0.0042	0.0032	0.0023	0.0014
20	0.0037	0.0029	0.0021	0.0013	0.0005	0.0001
25	0.0017	0.0011	0.0005	0.0001	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001

Termination with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Vested Deferred Benefits — Entry Age 20	25	30	35	40
5	0.0656	0.0597	0.0537	0.0477	0.0418
10	0.0530	0.0466	0.0403	0.0339	0.0000
15	0.0443	0.0373	0.0305	0.0000	0.0000
20	0.0333	0.0261	0.0000	0.0000	0.0000
25	0.0212	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Police 2% @ 50

Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability

Rates vary by age and sex. See sample rates in table below.

Attained Age	Male: Non-Industrial (Not Job-Related) Death	Male: Non-Industrial (Not Job-Related) Disability	Female: Non-Industrial (Not Job-Related) Death	Female: Non-Industrial (Not Job-Related) Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00010	0.00014	0.00010
30	0.00038	0.00020	0.00021	0.00020
35	0.00054	0.00030	0.00031	0.00030
40	0.00077	0.00040	0.00046	0.00040
45	0.00110	0.00050	0.00068	0.00050
50	0.00156	0.00080	0.00102	0.00080
55	0.00221	0.00130	0.00151	0.00130
60	0.00314	0.00200	0.00226	0.00200

Public Agency Police 2% @ 50 (continued)

Service Retirement

Rates vary by age and service. See table sample below.

	Service Retirement					
	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0138	0.0138	0.0138	0.0138	0.0253	0.0451
51	0.0123	0.0123	0.0123	0.0123	0.0226	0.0402
52	0.0262	0.0262	0.0262	0.0262	0.0480	0.0855
53	0.0523	0.0523	0.0523	0.0523	0.0957	0.1706
54	0.0697	0.0697	0.0697	0.0697	0.1275	0.2274
55	0.0899	0.0899	0.0899	0.0899	0.1645	0.2932
56	0.0638	0.0638	0.0638	0.0638	0.1166	0.2079
57	0.0711	0.0711	0.0711	0.0711	0.1300	0.2318
58	0.0628	0.0628	0.0628	0.0628	0.1149	0.2049
59	0.1396	0.1396	0.1396	0.1396	0.1735	0.2544
60	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
61	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
62	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
63	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
64	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Termination with Refund

Rates vary by entry age and service. See sample rates in table below.

	Termination with Refund					
Duration of	Entry Age					
Service	20	25	30	35	40	45
0	0.1013	0.1013	0.1013	0.1013	0.1013	0.1013
1	0.0636	0.0636	0.0636	0.0636	0.0636	0.0636
2	0.0271	0.0271	0.0271	0.0271	0.0271	0.0271
3	0.0258	0.0258	0.0258	0.0258	0.0258	0.0258
4	0.0245	0.0245	0.0245	0.0245	0.0245	0.0245
5	0.0086	0.0086	0.0086	0.0086	0.0086	0.0086
10	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
15	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
20	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
25	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
30	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009

Termination with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in table below.

	Termination with Vested Deferred Benefits				
Duration of	Entry Age				
Service	20	25	30	35	40
5	0.0163	0.0163	0.0163	0.0163	0.0163
10	0.0126	0.0126	0.0126	0.0126	0.0000
15	0.0082	0.0082	0.0082	0.0000	0.0000
20	0.0065	0.0065	0.0000	0.0000	0.0000
25	0.0058	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000

Investment Return Scenario Analysis

The following analysis looks at what the 2013-2014 contribution rates would be under four different investment return scenarios. This type of analysis can give the reader a sense of the short-term risk to the contribution rates.

The first scenario is what one would expect if the markets were to give us a 5th percentile return without considering we are already at approximately 2% so far for the 2011-2012 fiscal year. The 5th percentile return corresponds to a -12% return for the 2011-2012 fiscal year. The second scenario assumed the return would be our assumed 7.50%. The third scenario assumes an approximate return of 2%, the rate of return attained so far this fiscal year (at March 31, 2012). The last scenario is what one would expect if the markets were to give us a 95th percentile return notwithstanding the 2% year-to-date return for the current fiscal year. This 95th percentile return is equivalent to around 27%.

The tables below shows 2013-2014 projected employee and employer contribution rates under the return scenarios mentioned above.

-12% Return

	2013-2014 Employer Monthly Premium	2013-2014 Employee Monthly Premium
PA 1	$0.00	$2.00
PA 2	$0.00	$2.00
PA 3	$0.00	$2.00
PA 4	$4.20	$2.00
Indexed	$2.65	$2.65
State	$5.55	$5.55
School	$0.00	$2.00

7.50% Return

2013-2014 Employer Monthly Premium	2013-2014 Employee Monthly Premium
$0.00	$2.00
$0.00	$2.00
$0.00	$2.00
$3.90	$2.00
$2.55	$2.55
$5.45	$5.45
$0.00	$2.00

2% Return

	2013-2014 Employer Monthly Premium	2013-2014 Employee Monthly Premium
PA 1	$0.00	$2.00
PA 2	$0.00	$2.00
PA 3	$0.00	$2.00
PA 4	$4.00	$2.00
Indexed	$2.60	$2.60
State	$5.50	$5.50
School	$0.00	$2.00

27% Return

2013-2014 Employer Monthly Premium	2013-2014 Employee Monthly Premium
$0.00	$2.00
$0.00	$2.00
$0.00	$2.00
$3.80	$2.00
$2.50	$2.50
$5.40	$5.40
$0.00	$2.00

Discount Rate Sensitivity

The following analysis looks at what the 2013-2014 contribution rates would be under two different discount rate scenarios. We determined the required contribution rates using discount rates that are 1% lower and 1% higher than the valuation discount rate of 7.50%. This analysis will give an indication of the potential required contribution rates if the PERF had investment returns of 6.50% or 8.50% over the long-term.

This type of analysis can give employers a sense of the long-term risk to the contribution rates.

	6.50% Discount Rate (-1%)		Increase in Rate	
	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	$0.00	$2.00	$0.00	$0.00
PA 2	$0.00	$2.00	$0.00	$0.00
PA 3	$0.00	$2.00	$0.00	$0.00
PA 4	$5.40	$2.00	$1.40	$0.00
Indexed	$3.15	$3.15	$0.55	$0.55
State	$5.90	$5.90	$0.45	$0.45
School	$0.00	$2.00	$0.00	$0.00

	8.50% Discount Rate (+1%)		Decrease in Rate	
	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	$0.00	$2.00	$0.00	$0.00
PA 2	$0.00	$2.00	$0.00	$0.00
PA 3	$0.00	$2.00	$0.00	$0.00
PA 4	$2.70	$2.00	($1.30)	$0.00
Indexed	$2.05	$2.05	($0.55)	($0.55)
State	$5.10	$5.10	($0.35)	($0.35)
School	$0.00	$2.00	$0.00	$0.00

Appendix B - Summary of Principal Plan Provisions

The 1959 Survivor program was designed to provide pre-retirement death benefits comparable to those provided by Social Security, formally the Federal Old Age and Survivor Insurance (OASI) program, to CalPERS' members not covered by Social Security.

Eligibility

The benefit is available only to those members not covered by Social Security OASI benefits. For public agencies, this benefit is provided by contract with CalPERS. Only those public agencies that contract for the 1st, 2nd, 3rd, 4th, or Indexed level of the program are eligible for the benefits valued in this report. Public Agency 1st and 2nd levels have been closed since January 1, 1994 and 3rd level has been closed since July 1, 2001. For State and Schools members, the 5th level benefit is provided by State statute to certain groups of employees. Members who are eligible for the benefit are given a one-time option to join at the time of contract. Members hired subsequent to the time of contract are automatically enrolled in the program.

Spousal or Domestic Partner Benefit

The benefit is a monthly payment to eligible surviving spouses or domestic partners age 62 or older for Public Agency Levels 1, 2 and 3 and age 60 or older for all other levels. The benefit is also payable under these deferred ages for spouses or partners that have care of children under the age of 22. As an example, assume an agency contracts for the Level 3 benefit and an active member dies and leaves behind a 35 year old spouse and 2 children, ages 5 and 15. The following table describes how the benefit would be paid over the course of time.

Event	Monthly Benefit Paid
Member Death	$840
1st Child turns 22	$700
2nd Child turns 22*	$0
Spouse turns 62**	$350

* At this time, the spouse would be 52 years old and would not receive any benefit until age 62

** Spouse would continue to receive this benefit until his/her death

Child Benefit

Children are eligible under the age of 22 whether or not a spouse or domestic partner exists. For 3 or more children, the 3 survivor benefit is paid; for 2 children, the 2 survivor benefit is paid and so forth (see tables below). In all cases, unless a child is disabled, the benefit stops at age 22. If a child is disabled, the benefit is paid until the disability ceases.

Parental Benefit

If there is no eligible spouse or domestic partner or children, parent(s) dependent for at least half of their subsistence from the deceased member may be eligible for benefits. The parent(s) must be over age 62 for Public Agency Levels 1, 2 and 3 and over age 60 for all other levels.

Monthly Benefit Amounts

The monthly benefit amount depends upon the coverage level within the program.

Level 1 (For Members of Public Agencies who Contract)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children	$430
b. spouse with one eligible child; or two eligible children only	$360
c. one eligible child only; or spouse age 62 or older; or eligible dependent parents	$180

Level 2 (For Members of Public Agencies who Contract)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children	$538
b. spouse with one eligible child; or two eligible children only	$450
c. one eligible child only; or spouse age 62 or older; or eligible dependent parents	$225

Level 3 (For Members of Public Agencies who Contract)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children	$840
b. spouse with one eligible child; or two eligible children only	$700
c. one eligible child only; or spouse age 62 or older; or eligible dependent parents	$350

Level 4 (For Members of Public Agencies who Contract)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children	$2,280
b. spouse with one eligible child; or two eligible children only	$1,900
c. one eligible child only; or spouse age 60 or older; or eligible dependent parents	$950

Indexed Level (For Members of Public Agencies who Contract)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children $1,902[1]

b. spouse with one eligible child; or two eligible children only $1,268[1]

c. one eligible child only; or spouse age 60 or older; or eligible dependent parents $634[1]

Level 5 – (For State and Schools Members)

a. spouse or domestic partner with two or more eligible children; or three or more eligible children $1,800

b. spouse with one eligible child; or two eligible children only $1,500

c. one eligible child only; or spouse age 60 or older; or eligible dependent parents $750

1 - These figures indicate calendar year benefit amounts for the Indexed Level in effect for calendar year 2012. Benefit amounts will increase by 2 percent each January 1.

Comparison of Social Security and CalPERS 1959 Survivor Benefits

The following tables compare current Social Security survivor benefits with current benefit levels paid under the 1959 Survivor Program.

	Social Security		
Survivor Group	**Low**	**Average**	**High**
One Survivor	$ 717	$ 1,102	$ 1,572
Two Survivors	$ 1,434	$ 2,204	$ 3,144
Three Survivors	$ 1,436	$ 2,727	$ 3,669

Unlike the 1959 Survivor Benefit (with the exception of the Indexed level), federal Social Security benefits normally receive an automatic cost-of-living adjustment every year. Also, unlike the 1959 Survivor Benefit, Social Security benefits are based on a worker's actual earnings up to the maximum covered. The values shown assume death at age 45 (benefits slightly higher at lower ages, lower at higher ages), and steady earnings. "Low" is 2012 salary of $25,000, "Average" is $50,000, and "High" is exceeding the maximum OASDI taxable earnings.

	CalPERS 1959 Survivor Benefit					
Survivor Group	**First**	**Second**	**Third**	**Fourth**	**Indexed[2]**	**Schools/ State 5th**
One Survivor	$ 180	$ 225	$ 350	$ 950	$ 634	$ 750
Two Survivors	$ 360	$ 450	$ 700	$ 1,900	$ 1,268	$ 1,500
Three Survivors	$ 430	$ 538	$ 840	$ 2,280	$ 1,902	$ 1,800

2 – Amounts effective January 1, 2012

Summary of Plan Changes

In September 2009, the CalPERS Board of Administration approved Staff's recommendation to combine 1st, 2nd, and 3rd Levels into one pool and eliminate the $2.00 per member, per month contribution for all employees indefinitely. The legislation needed to create this new pool was expected to make its way through the Legislature in the summer of 2011. However, this legislation was vetoed by the Governor and the three pools continue to exist separately with significant overfunding.

Existing public agency employers joining the Public Agency 4th or Indexed Level Pool during the 2012-2013 fiscal year are required to pay only the Unfunded Liability based on their own membership (amortized over a period of 5 years) which exists at the time they join plus the agency's normal cost for all members at the new benefit level for the first five years. If they have excess assets, then they will be allowed to use as much of it as necessary to offset any increased liabilities incurred at the higher level and required employer premiums incurred at the higher level.

Appendix C - Demographic and Experience Information

Current and Deferred Beneficiaries – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

Currently, there are 3,964 cases where liability exists. These cases include widows or widowers in deferred status even though presently there are no benefits being paid. There are 9 possible beneficiary combinations that can be associated with each case. The combinations presented below are given as of the time of death of the member *and* as they exist currently, for all levels of the 1959 Survivor program.

	At time of Death		Current Condition	
Status	**Number**	**Percentage**	**Number**	**Percentage**
Widow deferred	1,296	32.7%	838	21.1%
Widow only receiving	434	10.9%	2,224	56.1%
Widow with one child	703	17.7%	305	7.7%
Widow with two or more children	1,295	32.7%	313	7.9%
One child	79	2.0%	185	4.7%
Two children	89	2.2%	62	1.6%
Three or more children	61	1.5%	30	0.8%
One parent	4	0.1%	7	0.2%
Two parents	3	0.1%	0	0.0%
Totals	3,964	100.0%[1]	3,964	100.0%[1]

Beneficiary Combinations at Date of Death – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

There exist 7,263 cases of death associated with the 1959 Survivor program since its inception. With this data, a historical account of each combination can be made. Further, probabilities can be approximated with respect to these combinations when a member dies. Below is a list of all combinations on record, numbers and associated percentages as of the time of death, for all levels of the 1959 Survivor program.

Status	**Number**	**Percent**
Widow deferred	2,227	30.7%
Widow only receiving	995	13.7%
Widow with one child	1,116	15.4%
Widow with two or more children	1,930	26.6%
One child	450	6.2%
Two children	330	4.5%
Three or more children	192	2.6%
One parent	20	0.3%
Two parents	3	0.0%
Totals	7,263	100.0%[1]

1 – Percentages may not sum to 100% due to rounding

Appendix D – 1959 Survivor Coverage by Level

1959 Survivor Coverage by Level

A CalPERS contracting agency that has employees not covered by Social Security will offer those employees 1st, 2nd, 3rd, 4th, or Indexed Level of 1959 Survivor benefit coverage, or no 1959 Survivor coverage at all. The following table shows the number of agencies and the count of active employees under each coverage scenario. An agency offering different levels of benefits to different groups of employees will be counted each time for each level that it offers.

	As of June 30, 2010			As of June 30, 2011	
	Contracting Agencies	Covered Active Employees	Agencies amending to different level[2]	Contracting Agencies	Covered Active Employees
No Coverage [1]	174	16,386		169	15,765
Level 1 Benefits	43	8,121		42	7,917
Level 2 Benefits	42	4,197		41	4,072
Level 3 Benefits	312	42,930	(1)	312	41,563
Level 4 Benefits	408	72,679	1	408	70,451
Indexed Level Benefits	67	10,543		67	10,252
Total	1,046	154,856		1,039	150,020

1 - This count includes only agencies that have active members. The change in agencies with no coverage from June 30, 2010 to June 30, 2011 is due to five agencies that became inactive.
2 - This column only reflects agencies moving between 1959 Survivor benefit levels due to contract amendments. This does not include new or existing agencies contracting for 1959 Survivor benefits for the first time.

Appendix E – 1959 Survivor Deaths Per Year

1959 Survivor Deaths Per Year

Displayed on the following page is a year-by-year account of the number of deaths under the program over the past 40 years and the death rate each year since 1980 for public agencies, State, and Schools. The historic covered active counts are not available prior to 1980. Deaths given in the exhibit are on a calendar year basis. Counts represent mid-year active exposure. The historic covered active counts may not match those reported in the prior year's valuation. This is due to the fact that in some cases there is a time gap between a member's death and the determination of which type of death benefit that member will receive.

Appendix E - continued
1959 Survivor Deaths Per Year

	Public Agency			State			School		
Calendar Year	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate
1959	0		*	0		*	1		*
1960	4		*	86		*	14		*
1961	5		*	100		*	11		*
1962	8		*	77		*	21		*
1963	14		*	60		*	14		*
1964	19		*	84		*	12		*
1965	20		*	83		*	9		*
1966	28		*	69		*	6		*
1967	41		*	73		*	14		*
1968	24		*	95		*	13		*
1969	40		*	93		*	17		*
1970	41		*	88		*	14		*
1971	42		*	75		*	10		*
1972	47		*	74		*	12		*
1973	54		*	74		*	14		*
1974	52		*	70		*	7		*
1975	66		*	101		*	10		*
1976	55		*	69		*	6		*
1977	59		*	72		*	22		*
1978	71		*	92		*	17		*
1979	57		*	88		*	7		*
1980	60		*	83		*	7		*
1981	80	54,354	0.15%	71	38,192	0.19%	10	7,843	0.13%
1982	73	56,401	0.13%	78	37,030	0.21%	11	7,987	0.14%
1983	81	59,917	0.14%	67	37,186	0.18%	8	7,685	0.10%
1984	76	65,480	0.12%	63	38,488	0.16%	6	7,104	0.08%
1985	69	66,927	0.10%	79	39,175	0.20%	5	6,842	0.07%
1986	62	68,500	0.09%	44	39,391	0.11%	8	6,500	0.12%
1987	63	69,340	0.09%	51	40,315	0.13%	11	6,200	0.18%
1988	77	84,808	0.09%	49	41,980	0.12%	9	7,100	0.13%
1989	68	82,046	0.08%	59	44,069	0.13%	6	6,899	0.09%
1990	89	86,196	0.10%	63	45,502	0.14%	7	7,942	0.09%
1991	96	91,574	0.10%	40	47,708	0.08%	7	7,752	0.09%
1992	88	95,840	0.09%	43	48,872	0.09%	8	6,823	0.12%
1993	79	97,752	0.08%	53	46,872	0.11%	4	6,776	0.06%
1994	72	98,088	0.07%	58	47,323	0.12%	11	6,653	0.17%
1995	74	99,235	0.07%	52	47,689	0.11%	9	6,751	0.13%
1996	82	100,494	0.08%	54	51,746	0.10%	6	6,726	0.09%
1997	70	102,475	0.07%	62	55,084	0.11%	4	6,794	0.06%
1998	83	112,389	0.07%	60	55,435	0.11%	7	6,956	0.10%
1999	96	118,850	0.08%	61	59,406	0.10%	1	7,444	0.01%
2000	77	121,538	0.06%	57	60,349	0.09%	7	8,338	0.08%
2001	87	116,161	0.07%	60	64,309	0.09%	5	7,884	0.06%
2002	88	129,355	0.07%	51	65,558	0.08%	4	9,195	0.04%
2003	94	129,620	0.07%	68	68,791	0.10%	6	9,390	0.06%
2004	91	131,633	0.07%	61	64,252	0.09%	2	9,325	0.02%
2005	104	133,510	0.08%	65	70,193	0.09%	5	9,402	0.05%
2006	90	137,095	0.07%	67	71,742	0.09%	13	9,469	0.14%
2007	105	140,012	0.07%	67	76,902	0.09%	5	10,131	0.05%
2008	103	144,828	0.07%	51	81,369	0.06%	8	10,550	0.08%
2009	96	143,207	0.07%	61	82,434	0.07%	6	10,562	0.06%
2010	82	138,470	0.06%	50	79,587	0.06%	7	10,203	0.07%

Death counts may change from previous valuations due mainly to reclassification of the benefit that ultimately gets paid to the beneficiary.

Appendix F – Glossary of Actuarial Terms

Accrued Liability
The portion of the actuarial present value of projected benefits allocated to service before the valuation date in accordance with the actuarial cost method.

Actuarial Assumptions
Assumptions made about the occurrence of future 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 investment return, salary growth and inflation.

Actuarial Cost Method
A procedure employed by actuaries for the allocation of the actuarial present value of projected benefits to time periods, usually in the form of a normal cost and an actuarial accrued liability to achieve certain funding goals for a pension plan. Sometimes this is referred to as the "funding method."

Actuarial Valuation
The determination, as of a valuation date, of the normal cost, actuarial accrued liability, actuarial value of assets and related actuarial present values for a pension plan.

Actuarial Value of Assets
The value of assets used for funding purposes. The actuarial value of assets may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses 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 in accordance with an asset valuation method. The actuarial value of assets has been set to equal the fair market value of assets for this System.

Amortization Period
The period of time used for determining the amount, timing, and pattern of recognition of contributions. The period for determining the employer's annual required contributions (ARC) under GASB 27 equals the average future working period for the active members in the plan as of the valuation date.

Normal Cost
The portion of the actuarial present value of projected benefits that is allocated to a period, typically twelve months, under the actuarial cost method. The normal cost may include a provision for expenses.

Pension Actuary	A person who is responsible for the calculations necessary to properly fund a pension plan.
Present Value of Benefits	Sometimes called the “actuarial present value of benefits,” the total dollars needed as of the valuation date to make future payments of all benefits, earned in the past or expected to be earned in the future, for current members by application of a particular set of actuarial assumptions.