California Public Employees' Retirement System
1959 Survivor Benefit Program

Independent Review of the Actuarial Valuation as of June 30, 2013

Produced by Cheiron

February 2015

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LETTER OF TRANSMITTAL

February 24, 2015

Ms. Young Hamilton, Acting Chief
California Public Employees' Retirement System
Office of Audit Services
P. O. Box 942701
Sacramento, CA 94229-2701

Dear Ms. Hamilton:

The purpose of this report is to provide an Independent Review of the Actuarial Valuation for the 1959 Survivor Benefit Program as of June 30, 2013. This report was prepared exclusively for the California Public Employees' Retirement System (CalPERS) for the purpose described herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

In preparing our report, we relied on information supplied by the California Public Employees' Retirement System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Robert T. McCrory, FSA, FCA
Principal Consulting Actuary

Timothy S. Doyle, ASA, MAAA
Associate Actuary

Overview

Cheiron has conducted an independent review of the Actuarial Valuation of the 1959 Survivor Benefit Program (the Plan, the Program) as of June 30, 2013. The scope of this study was a review of the Actuarial Valuation Report (the Valuation, the Report), an evaluation of actuarial methods and assumptions, and verification of the actuarial liabilities and costs calculated by CalPERS Staff.

As a result of our efforts, we are able to attest to the following.

- Overall, we found the Report to be accurate and complete, and fully compliant with generally accepted actuarial principles and with all standards of practice.
- We reviewed the actuarial methods and assumptions used for the Valuation, and find them to be reasonable and within acceptable standards of practice.
- Cheiron assessed the correctness of the valuation calculations by creating an *independent* valuation model to develop liabilities for all members. The resulting liabilities are within acceptable tolerances.

These findings are discussed in more detail below. In addition, we offer a few suggestions for future improvements.

Background

The 1959 Survivor program was designed to provide pre-retirement death benefits to CalPERS members not covered by the Federal Old Age and Survivor Insurance (OASI) program. The benefit is available only to those members not covered by OASI benefits. For CalPERS State and School members, this benefit is provided by State statue to certain groups of employees; public agencies are able to contract with CalPERS for the Program. Members who are eligible for the Program are given a one-time option to elect this benefit. Five numbered benefit levels and an indexed level are available, depending on the employer and the date of hire.

The benefit is a monthly payment to the eligible surviving spouse and children. A spouse is eligible if he or she has care of eligible children or is age 62 (60 for levels 3 or higher) or older. A child is eligible if he or she is under age 22 and not married. Physically disabled children are also eligible until the disability ceases. If there are no children or spouse, dependent parents over age 62 are eligible.

Actuarial assumptions used to compute liabilities and normal costs include:

- A 7.50% annual rate of investment return, net of all expenses;
- CalPERS specific mortality assumptions for surviving spouses; no mortality is assumed for child beneficiaries;
- Miscellaneous 2% @ 55 decrements for Miscellaneous Indexed members; and Police 2% @ 50 decrements for Safety Indexed members.

Current (2014) benefit Levels are shown in Table 1 below.

Table 1: Monthly Benefit Levels Payable under the 1959 Survivor Benefit Program

	Level					
Coverage Tier:	**1**	**2**	**3**	**4**	**5**	**Indexed**
Spouse with two or more children; or three or more eligible children	$ 430	$ 538	$ 840	$ 2,280	$ 1,800	$ 1,979
Spouse with one child; or two eligible children only	$ 360	$ 450	$ 700	$ 1,900	$ 1,500	$ 1,319
One eligible child only; or spouse age 62 or older; or dependent parents	$ 180	$ 225	$ 350	$ 950	$ 750	$ 660

Methodology

The review process for the Program includes three steps:

- Review of Methods and Assumptions

  The actuarial assumptions and methods employed in the CalPERS 1959 Survivor Program Actuarial Valuation were reviewed by Cheiron in order to establish that they meet acceptable standards of actuarial practice. We examined current practices to determine if any possible improvements or enhancements are appropriate.

- Independent Valuations

  In order to verify the correctness of calculations in the CalPERS 1959 Survivor Valuation, Cheiron conducted an independent actuarial valuation using its own actuarial model, based on the assumptions and Plan provisions shown in the Valuation Report published by CalPERS as of June 30, 2013. We then compare these liabilities and normal costs produced from the independent valuation to those computed and reported by CalPERS.

  Calculations for all benefit recipients from each of the benefit Levels (1 through 5 and Indexed Level) are reviewed, as well as all active members (Miscellaneous and Safety) from the Indexed Level population. Benefits for active members from benefit Levels 1 through 5 are not calculated for the purposes of the Valuation, but the member counts are utilized in the calculation of the required employer and employee premiums. We did not verify the counts, but found them to be reasonable in comparison with the prior valuation reports.

- Reconciliation of Results

  In the event that the figures computed by Cheiron fall outside of the established tolerances (5%) versus those computed by CalPERS' staff, reconciliation is required.

This reconciliation proceeds in four steps:

1. Establishing that the same member data has been used by Cheiron and by CalPERS staff.

2. Researching methodological differences between the Cheiron and CalPERS staff approaches to computing liabilities and costs.

3. Comparing individual test life results to uncover subtle differences in approach that may result in material differences in liabilities and costs.

4. Discuss with CalPERS Staff the nature and magnitude of the discrepancy and come to agreement on the cause and remedy.

Review of Methods and Assumptions

The actuarial methods and assumptions used in the 1959 Survivor Valuation are well within acceptable standards of actuarial practice.

A modified Term Cost method is used to determine the rates for Levels 1 through 5, while the Entry Age Normal method is used for the Indexed Level. The latter has been implemented to account for the increasing nature of the benefit Levels. We believe that these methods are appropriate; however, it may be useful to validate the rates for Levels 1 through 5 by computing them using the Entry Age Normal method.

Actuarial assumptions used to compute System liabilities and employer costs include:

- A 7.50% annual rate of investment return, net of administrative expenses.
- For Indexed Level members a set of claim costs for active members are developed by CalPERS staff. These costs use average claim experience from the 1959 Survivor Program and are smoothed using a polynomial regression model.
- Miscellaneous 2%@55 decrements are used for Miscellaneous members and 2%@50 Police decrements are used for Safety members in the calculation of active liabilities and normal costs for Indexed Level members.
- Active and retired mortality rates were developed based on actual CalPERS experience during the period from 1997 to 2011.

More detailed information concerning the valuation assumptions can be found in the 2013 CalPERS Experience Study Report. Cheiron also performed a review of this Experience Study, and evaluated demographic assumptions as part of that review.

Independent Valuations

Cheiron validated CalPERS calculations by creating an *independent* actuarial model to develop liabilities for each group of members. The only data common to the models was the participant data; the Cheiron model was developed separately, without reference to the one used by staff for the Valuation.

As established in our Proposal of Services, we expect the values of comparable items derived from the two models to differ by less than the percentages shown in the following table.

Table 2: Independent Valuation Tolerances

Calculated Item	Acceptable Tolerance
Number of members - active, retired, inactive	0%
Annual payroll and member contributions	0%
Present value of pay; present value of member contributions	1%
Present value of benefit obligations	5%
Annual normal cost, employer contribution rates	5%

Current Survivors

Our Survivors Model projects expected cash flows for each benefit recipient based on their benefit Level and expected lifetime. These cash flows are discounted to the valuation date using the same assumptions used for the CalPERS valuation. These present values are then compared to the figures provided by CalPERS for each group.

Table 3 below shows the results of the calculations.

Table 3: Comparison of Present Value of Benefits for Survivors

Survivors Present Value of Benefits				
Level:	**CalPERS**	**Cheiron**	**Ratio**	**Within Tolerance**
1	2,451,490	2,444,047	99.7%	Yes
2	2,413,045	2,329,871	96.6%	Yes
3	27,210,478	27,353,795	100.5%	Yes
4	123,288,733	123,380,036	100.1%	Yes
5	154,326,119	153,734,901	99.6%	Yes
Indexed	13,818,741	13,800,880	99.9%	Yes
Total	**323,508,606**	**323,043,491**	**99.9%**	**Yes**

The results produced by CalPERS staff and by Cheiron are in very close agreement for all of the Survivors. In aggregate, the total present value we determined for the population of 1959 Survivors was within 0.1% of that calculated by CalPERS, as shown above.

Current Active Members

We developed a separate Active Model for active members in the Program. This Model was designed to determine the present value of benefits for each member in the same manner as that employed by CalPERS, applying Miscellaneous 2%@55 decrements for Miscellaneous members and 2%@50 Police decrements for Safety members. This is a reasonable approach; however, an alternative would be to use separate decrements for each active participant, depending on which pension plan they belong to.

The present values, accrued liabilities and normal costs produced by CalPERS staff and by Cheiron are in very close agreement for both the Safety group and the Miscellaneous group. Table 4 below shows the results of the calculations.

Table 4: Comparison of Active Liabilities and Costs for Miscellaneous and Safety

	Active Liabilities for Indexed Level			
	CalPERS	**Cheiron**	**Ratio**	**Within Tolerance**
Present Value of Benefits				
Miscellaneous	4,307,683	4,314,225	100.2%	Yes
Safety	6,500,392	6,514,984	100.2%	Yes
Total	10,808,075	10,829,209	100.2%	Yes
Accrued Liability				
Miscellaneous	1,700,789	1,666,146	98.0%	Yes
Safety	2,441,710	2,420,033	99.1%	Yes
Total	4,142,499	4,086,179	98.6%	Yes
Normal Cost				
Miscellaneous	416,595	419,799	100.8%	Yes
Safety	535,948	535,121	99.8%	Yes
Total	952,543	954,920	100.2%	Yes
Normal Cost per member per month				
Miscellaneous	8.72	8.79	100.8%	Yes
Safety	7.62	7.61	99.9%	Yes
Total	8.07	8.09	100.2%	Yes

Required Monthly Premiums

Using the results on an aggregate basis, we then calculated the required monthly premiums for 2014-2015 and compared those results to those computed by CalPERS.

Table 5: Comparison of Present Value of Benefits for Survivors

2014-2015 Required Monthly Premium								
	CalPERS			Cheiron			Ratio	Within
Level:	Employer	Employee	Total	Employer	Employee	Total	(Total)	Tolerance
State 5th Level Pool	$5.505	$5.55	$11.10	$5.55	$5.55	$11.10	100.0%	Yes
Schools 5th Level Pool	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00	100.0%	Yes
PA 1st Level Pool	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00	100.0%	Yes
PA 2nd Level Pool	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00	100.0%	Yes
PA 3rd Level Pool	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00	100.0%	Yes
PA 4th Level Pool	$5.00	$2.00	$7.00	$5.00	$2.00	$7.00	100.0%	Yes
PA Indexed Level Pool	$3.35	$3.35	$6.70	$3.35	$3.35	$6.70	100.0%	Yes

Table 5 above shows the results of the calculations. More detailed calculations can be found in the attached appendix.

Reconciliation of Results

For all of the survivors, Cheiron’s calculations were within 5% of those computed by CalPERS; therefore no reconciliation is required for any group. The same is true for the total present value of benefits and normal costs for all actives.

Appendix – Minimum Funding Requirements
Table A-1: State 5th Level

	CalPERS State 5th Level	Cheiron State 5th Level
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$140,626,666	$140,572,150
b. Market Value of Assets	$102,751,222	$102,751,222
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	$37,875,444	$37,820,928
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$24,136,160	$23,942,343
b. Number of 2009-2012 Member Months	3,737,928	3,737,928
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$7.40	$7.40
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$7.20	$7.20
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	$40,716,102	$40,657,497
b. Projected Normal Cost Accrual 2013-2014 with interest	$6,558,345	$6,558,345
c. Projected Employer Contributions 2013-2014 with interest	$4,698,751	$4,698,751
d. Projected Employee Contributions 2013-2014 with interest	$4,698,751	$4,698,751
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	$37,876,945	$37,818,340
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$7.20	$7.20
b. Projected Active Members as of 6/30/2014	70,000	70,000
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$6,270,700	$6,270,700
d. Amortization of the UAL/(Excess Assets)	$3,093,190	$3,088,404
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$11.10	$11.10
f. Amortization Period	30-year	30-year
5) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
a. Required Employee Premium per member, per month	$5.55	$5.55
b. Required Employer Premium per member, per month [maximum($0,4(e)-5(a))]	$5.55	$5.55

Table A-2: School 5th Level

	CalPERS School 5th Level	Cheiron School 5th Level
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$13,699,453	$13,162,751
b. Market Value of Assets	$61,870,390	$61,870,390
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($48,170,937)	($48,707,639)
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$2,548,116	$2,512,818
b. Number of 2009-2012 Member Months	488,388	488,388
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$5.10	$5.10
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$5.10	$5.10
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	($51,783,757)	($52,360,712)
b. Projected Normal Cost Accrual 2013-2014 with interest	$659,165	$659,165
c. Projected Employer Contributions 2013-2014 with interest	$0	$0
d. Projected Employee Contributions 2013-2014 with interest	$249,385	$249,385
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($51,373,977)	($51,950,932)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$5.10	$5.10
b. Projected Active Members as of 6/30/2014	10,100	10,100
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$640,880	$640,880
d. Amortization of the UAL/(Excess Assets)	($640,880)	($640,880)
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) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
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

Table A-3: Public Agency Level 1

	CalPERS Public Agency Level 1	Cheiron Public Agency Level 1
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$2,451,490	$2,444,007
b. Market Value of Assets	$36,668,679	$36,668,679
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($34,217,189)	($34,224,672)
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$9,664,308	$9,159,980
b. Number of 2009-2012 Member Months	6,584,232	6,584,232
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$1.40	$1.40
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$1.40	$1.40
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	($36,783,478)	($36,791,522)
b. Projected Normal Cost Accrual 2013-2014 with interest	$133,334	$133,334
c. Projected Employer Contributions 2013-2014 with interest	$0	$0
d. Projected Employee Contributions 2013-2014 with interest	$183,642	$183,642
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($36,833,786)	($36,841,830)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$1.40	$1.40
b. Projected Active Members as of 6/30/2014	7,300	7,300
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$127,156	$127,156
d. Amortization of the UAL/(Excess Assets)	($127,156)	($127,156)
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) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
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

Table A-4: Public Agency Level 2

	CalPERS Public Agency Level 2	Cheiron Public Agency Level 2
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$2,413,045	$2,329,871
b. Market Value of Assets	$9,100,668	$9,100,668
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($6,687,623)	($6,770,797)
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$12,080,385	$11,513,907
b. Number of 2009-2012 Member Months	6,584,232	6,584,232
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$1.80	$1.80
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$1.80	$1.80
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	($7,189,194)	($7,278,606)
b. Projected Normal Cost Accrual 2013-2014 with interest	$89,691	$89,691
c. Projected Employer Contributions 2013-2014 with interest	$0	$0
d. Projected Employee Contributions 2013-2014 with interest	$96,064	$96,064
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($7,195,567)	($7,284,979)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$1.80	$1.80
b. Projected Active Members as of 6/30/2014	3,800	3,800
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$85,102	$85,102
d. Amortization of the UAL/(Excess Assets)	($85,102)	($85,102)
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) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
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

Table A-5: Public Agency Level 3

	CalPERS Public Agency Level 3	Cheiron Public Agency Level 3
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$27,210,478	$27,353,795
b. Market Value of Assets	$92,079,207	$92,079,207
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($64,868,729)	($64,725,412)
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$18,791,710	$17,929,907
b. Number of 2009-2012 Member Months	6,584,232	6,584,232
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$2.80	$2.80
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$2.80	$2.80
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	($69,733,884)	($69,579,817)
b. Projected Normal Cost Accrual 2013-2014 with interest	$1,452,163	$1,452,163
c. Projected Employer Contributions 2013-2014 with interest	$0	$0
d. Projected Employee Contributions 2013-2014 with interest	$1,000,077	$1,000,077
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($69,281,798)	($69,127,731)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$2.80	$2.80
b. Projected Active Members as of 6/30/2014	39,800	39,800
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$1,386,521	$1,386,521
d. Amortization of the UAL/(Excess Assets)	($1,386,521)	($1,386,521)
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) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
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

Table A-6: Public Agency Level 4

	CalPERS Public Agency Level 4	Cheiron Public Agency Level 4
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$123,288,733	$123,380,036
b. Market Value of Assets	$133,865,159	$133,865,159
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	($10,576,426)	($10,485,123)
2) Development of Normal Cost		
a. Present Value of Benefits for 2009-2012 Deaths	$51,006,069	$51,075,988
b. Number of 2009-2012 Member Months	6,584,232	6,584,232
c. Total per member, per month 2013/2014 Term Insurance Normal Cost	$7.70	$7.70
d. Total per member, per month 2014/2015 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$7.70	$7.70
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(c)*1.075]	($11,369,658)	($11,271,507)
b. Projected Normal Cost Accrual 2013-2014 with interest	$6,764,336	$6,764,336
c. Projected Employer Contributions 2013-2014 with interest	$3,897,911	$3,897,911
d. Projected Employee Contributions 2013-2014 with interest	$1,694,744	$1,694,744
e. Total Projected UAL/(Excess Assets) as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($10,197,977)	($10,099,826)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(d)]	$7.70	$7.70
b. Projected Active Members as of 6/30/2014	68,300	68,300
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$6,543,301	$6,543,301
d. Amortization of the UAL/(Excess Assets)	($832,810)	($824,794)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$7.00	$7.00
f. Amortization Period	30-year	30-year
5) 2014/2015 Required Employer and Employee Premiums With Cost Sharing Provision		
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))]	$5.00	$5.00

Table A-7: Public Agency Indexed Level

	CalPERS Public Agency Indexed Level	Cheiron Public Agency Indexed Level
1) Development of Unfunded Liability		
a. Present Value of Future Benefits for Active Members	$10,808,075	$10,829,209
b. Present Value of Future Benefits for Current Survivors	$13,818,741	$13,800,880
c. Total Present Value of Future Benefits [1(a)+1(b)]	$24,626,816	$24,630,089
d. Present Value of Future Normal Costs	$6,665,576	$7,057,849
e. Entry Age Normal Total Accrued Liability [1(c)-1(d)]	$17,961,240	$17,887,058
f. Market Value of Assets	$20,411,771	$20,411,771
g. Unfunded Accrued Liability/(Excess Assets) [1(e)-1(f)]	($2,450,531)	($2,524,713)
2) Development of Normal Cost		
a. Required Entry Age Normal Cost	$952,543	$954,920
b. Active Members as of June 30, 2013	9,922	9,922
c. Total per member per month Entry Age Normal Cost [2(a)/2(b)*12], rounded to nearest $0.10	$8.00	$8.00
3) 2014 Projected Unfunded Liability		
a. 2013 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2014 [1(g)*1.075]	($2,634,321)	($2,714,066)
b. Projected Normal Cost Accrual 2013-2014 with interest	$1,017,879	$1,017,879
c. Projected Employer Contributions 2013-2014 with interest	$318,992	$318,992
d. Projected Employee Contributions 2013-2014 with interest	$318,992	$318,992
e. Total Projected UAL as of June 30, 2014 [3(a)+3(b)-3(c)-3(d)]	($2,254,426)	($2,334,171)
4) 2014/2015 Required Contribution		
a. Required Normal Cost per member, per month [2(c)]	$8.00	$8.00
b. Projected Active Members as of June 30, 2014	9,800	9,800
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.075^1/2]	$975,442	$975,442
d. Amortization of the UAL/(Excess Assets)	($184,106)	($190,618)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)*12)], rounded to nearest $0.10	$6.70	$6.70
f. Amortization Period	30-year	30-year
5) 2014/2015 Employer and Employee Premiums with Cost Sharing Provision		
a. Required Employee Premium per member, per month [maximum(2,4(e)/2)]	$3.35	$3.35
b. Required Employer Premium per member, per month [maximum(0,4(e)-5(a))]	$3.35	$3.35