



California Public Employees' Retirement System  
 Actuarial Office  
 P.O. Box 942709  
 Sacramento, CA 94229-2709  
 TTY: (916) 795-3240  
 (888) 225-7377 phone – (916) 795-2744 fax  
[www.calpers.ca.gov](http://www.calpers.ca.gov)

**November 2015**

**SAFETY FIRE SECOND TIER PLAN OF THE CITY OF COSTA MESA  
 (CalPERS ID: 5937664258)  
 Annual Valuation Report as of June 30, 2014**

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2014 actuarial valuation report of your pension plan.

Because this plan is in a risk pool, the following valuation report has been separated into two Sections:

- Section 1 contains specific information for your plan, including the development of your pooled employer contributions and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to your plan, as of June 30, 2014.

Section 2 can be found on the CalPERS website at ([www.calpers.ca.gov](http://www.calpers.ca.gov)). From the home page go to "*Forms & Publications*" and select "*View All*". In the search box enter "*Risk Pool Report*" and from the results list download the Miscellaneous or Safety Risk Pool Actuarial Valuation Report as appropriate.

Your 2014 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary, whose signature appears in the Actuarial Certification Section on page 1, is available to discuss your report with you after November 30, 2015.

**Future Contribution Rates**

Fiscal Year	Employer Normal Cost Rate	+	Employer Payment of Unfunded Liability
2016-17	14.785%		\$431
2017-18 (projected)	14.8%		\$486

The exhibit above displays the Minimum Employer Contributions, before any cost sharing, for 2016-17 along with estimates of the contributions for 2017-18. The estimated contributions for 2017-18 are based on a projection of the most recent information we have available, including an estimated 2.4 percent investment return for fiscal 2014-15.

A projection of employer contributions beyond 2017-18 can be found in the Risk Analysis Section of this report, "*Analysis of Future Investment Return Scenarios*", under a variety of investment return scenarios. Please disregard any projections provided to you in the past. Member contributions, other than cost sharing (whether paid by the employer or the employee), are in addition to the above amounts. The employer contributions in this report do not reflect any cost sharing arrangements you may have with your employees.

The estimate for 2017-18 also assumes that there are no future contract amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.) This is a very important assumption because these gains and losses do occur and can have a significant effect on your contributions. Even for the largest plans or pools, such gains and losses can impact the employer's contribution rate by one or two percent of payroll or even more in some less common circumstances. These gains and losses cannot be predicted in advance so the projected employer contributions are estimates. Your actual employer contributions for 2017-18 will be provided in next year's valuation report.

### **Changes since the Prior Year's Valuation**

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in the accompanying report does not set plan specific actuarial assumptions.

Besides the above noted changes, there may also be changes specific to your plan such as contract amendments and funding changes.

Effective with the 2014 actuarial valuation Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

Further descriptions of general changes are included in the *"Highlights and Executive Summary"* section and in Appendix A, *"Statement of Actuarial Data, Methods and Assumptions"* of your Section 2 report. We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their result, we ask that, you wait until after November 30 to contact us with actuarial related questions.

### **Potential Changes to Future Year Valuations**

One of CalPERS strategic goals is to improve the long-term pension benefit sustainability of the system through an integrated view of pension assets and liabilities. The Board of Administration has been engaging in discussions on the funding risks faced by the system and possible risk mitigation strategies to better protect our members. Recent Board actions on a new asset allocation, new actuarial assumptions and new smoothing and amortization policies have already lowered risk. However, future contribution rate volatility is expected as CalPERS pension plans continue to mature.

At its November 2015 Board of Administration meeting CalPERS adopted a Funding Risk Mitigation Policy that addresses these risks in a balanced manner. The policy will result in a gradual shifting of the asset allocation in a way that will lower investment risk. This shift means accepting lower future expected returns and a lower actuarial discount rate. In time, the policy is expected to lower the level of risk borne by employers and, ultimately, by members. Additional information on the CalPERS new Funding Risk Mitigation policy can be found on our website.

If you have other questions, please call our customer contact center at (888) CalPERS or (888-**225-7377**).

Sincerely,

ALAN MILLIGAN  
Chief Actuary

**THIS PAGE  
INTENTIONALLY  
LEFT BLANK**



# **ACTUARIAL VALUATION**

as of June 30, 2014

**for the  
SAFETY FIRE SECOND TIER PLAN  
of the  
CITY OF COSTA MESA  
(CalPERS ID: 5937664258)**

**REQUIRED CONTRIBUTIONS  
FOR FISCAL YEAR  
July 1, 2016 - June 30, 2017**

# **TABLE OF CONTENTS**

**SECTION 1 – PLAN SPECIFIC INFORMATION**

**SECTION 2 – RISK POOL ACTUARIAL VALUATION INFORMATION**

# Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

---

**Plan Specific Information  
for the  
SAFETY FIRE SECOND TIER PLAN  
of the  
CITY OF COSTA MESA**

**(CalPERS ID: 5937664258)  
(Rate Plan: 30091)**

# TABLE OF CONTENTS

<b>ACTUARIAL CERTIFICATION</b>	<b>1</b>
<b>HIGHLIGHTS AND EXECUTIVE SUMMARY</b>	
• <b>INTRODUCTION</b>	<b>3</b>
• <b>PURPOSE OF SECTION 1</b>	<b>3</b>
• <b>REQUIRED EMPLOYER CONTRIBUTION</b>	<b>4</b>
• <b>PLAN'S FUNDED STATUS</b>	<b>5</b>
• <b>PROJECTED EMPLOYER CONTRIBUTIONS</b>	<b>5</b>
<b>ASSETS AND LIABILITIES</b>	
• <b>ALLOCATION OF PLAN'S SHARE OF POOL'S EXPERIENCE/ASSUMPTION CHANGE</b>	<b>7</b>
• <b>DEVELOPMENT OF PLAN'S SHARE OF POOL'S MVA</b>	<b>7</b>
• <b>SCHEDULE OF PLAN'S SIDE FUND &amp; OTHER AMORTIZATION BASES</b>	<b>8</b>
• <b>ALTERNATE AMORTIZATION SCHEDULES</b>	<b>9</b>
• <b>FUNDING HISTORY</b>	<b>9</b>
<b>RISK ANALYSIS</b>	
• <b>VOLATILITY RATIOS</b>	<b>11</b>
• <b>ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS</b>	<b>12</b>
• <b>ANALYSIS OF DISCOUNT RATE SENSITIVITY</b>	<b>13</b>
• <b>HYPOTHETICAL TERMINATION LIABILITY</b>	<b>14</b>
<b>PARTICIPANT DATA</b>	<b>15</b>
<b>LIST OF CLASS 1 BENEFIT PROVISIONS</b>	<b>15</b>
<b>PLAN'S MAJOR BENEFIT OPTIONS</b>	<b>17</b>



## ACTUARIAL CERTIFICATION

Section 1 of this report is based on the member and financial data contained in our records as of June 30, 2014 which was provided by your agency and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2014 provided by employers participating in the Safety Risk Pool to which your plan belongs and benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the Pool Actuary has certified that, in their opinion, the valuation of the Risk Pool containing your SAFETY FIRE SECOND TIER PLAN has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the Risk Pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for your plan, it is my opinion as your Plan Actuary that the Side Fund and other Unfunded Accrued Liability bases as of June 30, 2014 and employer contribution as of July 1, 2016, have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary for CalPERS, who is a member of both the American Academy of Actuaries and Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

KERRY J. WORGAN, MAAA, FSA, FCIA  
Senior Pension Actuary, CalPERS  
Plan Actuary

# HIGHLIGHTS AND EXECUTIVE SUMMARY

- **INTRODUCTION**
- **PURPOSE OF SECTION 1**
- **REQUIRED EMPLOYER CONTRIBUTION**
- **PLAN'S FUNDED STATUS**
- **PROJECTED CONTRIBUTIONS**

## Introduction

This report presents the results of the June 30, 2014 actuarial valuation of the SAFETY FIRE SECOND TIER PLAN of the CITY OF COSTA MESA of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the Fiscal Year 2016-17 required employer contributions.

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience study report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in this report does not set plan specific actuarial assumptions.

Effective with the 2014 actuarial valuation, Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

## Purpose of Section 1

This section 1 report for the SAFETY FIRE SECOND TIER PLAN of the CITY OF COSTA MESA of the California Public Employees' Retirement System (CalPERS) was prepared by the Plan Actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2014;
- Determine the required employer contribution for this plan for the Fiscal Year July 1, 2016 through June 30, 2017; and
- Provide actuarial information as of June 30, 2014 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

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

### California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 8.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using a 1 percent plus or minus change in the discount rate.

## Required Employer Contribution

<b>Actuarially Determined Employer Contributions:</b>	<b>Fiscal Year 2015-16<sup>1</sup></b>	<b>Fiscal Year 2016-17</b>
Employer Contributions (in Projected Dollars)		
Plan's Employer Normal Cost	\$ 0	\$ 31,613
Plan's Payment on Amortization Bases	0	431 <sup>2</sup>
Total Employer Contribution	\$ 0	\$ 32,044
Projected Payroll for the Contribution fiscal year	\$ 0	\$ 213,827
Required Employer Contributions (Percentage of Payroll)		
Pool's Base Employer Normal Cost	0.000%	14.784%
Surcharge for Class 1 Benefits <sup>3</sup>		
None	0.000%	0.000%
Phase out of Normal Cost Difference <sup>4</sup>	0.000%	0.000%
Pools Expected Employee Contribution for Formula	0.000%	8.925%
Plan's Total Normal Cost	0.000%	23.710%
Plan's Employee Contribution Rate	0.000%	8.925%
Employer Normal Cost Rate	0.000%	14.785%

### Required Employer Contribution for Fiscal Year 2016-17

<b>Employer Normal Cost Rate<sup>5</sup></b>	<b>14.785%</b>
<b>Plus Monthly Employer Dollar UAL Payment<sup>6</sup></b>	<b>\$ 35.95</b>
<b>Annual Lump Sum Prepayment Option</b>	<b>\$ 416</b>

*For Fiscal Year 2016-17 the total minimum required employer contribution is the **sum** of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) **plus** the Employer Unfunded Accrued Liability (UAL) Contribution Amount (in dollars). Whereas in prior years it was possible to prepay total employer contributions for the fiscal year, beginning with Fiscal Year 2015-16 and beyond, only the UAL portion of the employer contribution can be prepaid. Late payments will accrue interest at an annual rate of 10 percent.*

Plan Normal Cost contributions will be made as part of the payroll reporting process. As a percentage of projected payroll your UAL contribution is 0.202 percent for a total Employer Contribution Rate of 14.987 percent.

<sup>1</sup> The results shown for Fiscal Year 2015-16 reflect the prior year valuation and do not reflect any lump sum payment, side fund payoff or rate adjustment made after annual valuation report is completed.

<sup>2</sup> The Plan's Payment on Amortization Bases reflects the sum of all UAL amortization bases including the Plan's Side Fund (where applicable).

<sup>3</sup> Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

<sup>4</sup> Risk pooling was implemented for most plans as of June 30, 2003. The normal cost difference was scheduled to be phased out over a five year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year.

<sup>5</sup> The minimum employer contribution under PEPPA is the greater of the required employer contribution or the total employer normal cost.

<sup>6</sup> The Plan's Payment on Amortization Bases Contribution amount for Fiscal Year 2016-17 will be billed as a level dollar amount monthly over the course of the year. Lump sum payments may be made through my|CalPERS. If you would like to prepay the entire Annual Payment toward your Plan's Unfunded Accrued Liability, you can submit the Annual Lump Sum Prepayment amount against the July Unfunded Accrued Liability receivable. The Annual Lump Sum Prepayment must be received in full on or before July 31. If there is contractual cost sharing or other change, this amount will change. § 20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.

## Plan's Funded Status

	<b>June 30, 2013</b>	<b>June 30, 2014</b>
1. Present Value of Projected Benefits (PVB)	\$ 0	\$ 619,021
2. Entry Age Normal Accrued Liability	0	49,142
3. Plan's Market Value of Assets (MVA)	0	51,228
4. Unfunded Liability [(2) - (3)]	0	(2,086)
5. Funded Ratio [(3) / (2)]	0.0%	104.2%

## Projected Employer Contributions

The estimated rate for 2017-18 is based on a projection of the most recent information we have available, including an estimated 2.4 percent investment return for Fiscal Year 2014-15.

The table below shows projected employer contribution rates (before cost sharing) for the next five fiscal years, **assuming CalPERS earns 2.4% for Fiscal Year 2014-15 and 7.50 percent every fiscal year thereafter**, and assuming that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of the projection period.

	<b>Required Contribution</b>	<b>Projected Future Employer Contribution Rates</b>				
	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
<b>Normal Cost %</b>	14.785%	14.8%	14.8%	14.8%	14.8%	14.8%
<b>UAL \$</b>	\$431	\$486	\$543	\$603	\$667	\$233

**For new plans where active members have accrued little service the future UAL dollar amounts may be unstable. It is more prudent to use projected normal cost times expected payroll for employer budgeting purposes.**

## **ASSETS AND LIABILITIES**

- **DEVELOPMENT OF PLAN'S SHARE OF POOL'S EXPERIENCE/ASSUMPTION CHANGE**
- **DEVELOPMENT OF PLAN'S SHARE OF POOL'S MVA**
- **SCHEDULE OF PLAN'S SIDE FUND & OTHER AMORTIZATION BASES**
- **ALTERNATIVE AMORTIZATION SCHEDULES**
- **FUNDING HISTORY**

## Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of the CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer fairly and that maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. For purposes of allocating the pool's experience gains/losses and impact of assumption changes to all the individual plans within the pool, an individual plan's share is allocated as follows:

1.	Plan's Accrued Liability	\$	49,142
2.	Projected UAL balance at 6/30/14		0
3.	Pool's Accrued Liability	\$	17,648,059,055
4.	Sum of Pool's Individual Plan UAL Balances at 6/30/14		4,078,457,144
5.	Pool's 2013/14 Investment & Asset (Gain)/Loss		(1,230,598,112)
6.	Pool's 2013/14 Other (Gain)/Loss		15,674,325
7.	Plan's Share of Pool's Asset (Gain)/Loss [(1)-(2)]/[(3)-(4)] * (5)		(4,457)
8.	Plan's Share of Pool's Other (Gain)/Loss [(1)]/[(3)] * (6)		44
9.	Plan's New (Gain)/Loss as of 6/30/2014 [(7)+(8)]	\$	(4,413)
10.	Increase in Pool's Accrued Liability due to Change in Assumptions		835,689,506
11.	Plan's Share of Pool's Change in Assumptions [(1)]/[(3)] * (10)	\$	2,327

## Development of the Plan's Share of Pool's Market Value of Assets

1.	Plan's Accrued Liability	\$	49,142
2.	Plan's UAL	\$	(2,086)
3.	Plan's Share of Pool's MVA (1)-(2)	\$	<b>51,228</b>

## Schedule of Plan's Side Fund and Other Amortization Bases

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

- The assets, liabilities and funded status of the plan are measured as of the valuation date; June 30, 2014.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date; Fiscal Year 2016-17.

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

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the Payment on the UAL for the fiscal year and adjusting for interest.

Reason for Base	Date Established	Amortization Period	Balance 6/30/14	Payment 2014-15	Balance 6/30/15	Payment 2015-16	Amounts for Fiscal 2016-17	
							Balance 6/30/16	Scheduled Payment for 2016-17
FRESH START	06/30/14	5	\$(2,086)	\$(1,981)	\$(188)	\$(2,041)	\$1,913	\$431
<b>TOTAL</b>			<b>\$(2,086)</b>	<b>\$(1,981)</b>	<b>\$(188)</b>	<b>\$(2,041)</b>	<b>\$1,913</b>	<b>\$431</b>

Your plan's allocated share of the risk pool's pre-2013 UAL is based on your plan's accrued liability and is amortized over the average amortization period of the combined existing amortization bases prior to June 30, 2013. The payment for Fiscal Year 2014-15 was allocated based on your plan's payroll.

The (gain)/loss bases are your plan's allocated share of the risk pool's gain/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.



## Alternate Amortization Schedules

The amortization schedule shown on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze your current amortization schedule and illustrate the advantages of accelerating unfunded liability payments towards your plan's unfunded liability of \$1,913 as of June 30, 2016, which will require total payments of \$2,290.

Shown below are the level payments required to amortize your plan's unfunded liability assuming a fresh start over the various periods noted.

Period	Level Payment			
	2016-17 Payment	Total Payments	Total Interest	Savings
N/A	N/A	N/A	N/A	N/A

Current CalPERS Board policy calls for lump sum contributions in excess of the required employer contribution shall first be used to eliminate the side fund, if applicable, and then the plan's share of the pool's unfunded accrued liability.

Please contact your plan actuary before making such a payment to ensure that the payment is applied correctly.

## Funding History

The Funding History below shows the actuarial accrued liability, the plan's share of the pool's market value of assets, plan's share of the pool's unfunded liability, funded ratio and the annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Plan's Share of Pool's Unfunded Liability	Funded Ratio	Annual Covered Payroll
06/30/2014	\$ 49,142	\$ 51,228	\$ (2,086)	104.2%	\$ 195,682

## **RISK ANALYSIS**

- **VOLATILITY RATIOS**
- **ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS**
- **ANALYSIS OF DISCOUNT RATE SENSITIVITY**
- **HYPOTHETICAL TERMINATION LIABILITY**

## Volatility Ratios

The actuarial calculations supplied in this communication are based on a number of assumptions about very long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise the employer's rates from one year to the next. Therefore, the rates will inevitably fluctuate, especially due to the ups and downs of investment returns.

### Asset Volatility Ratio (AVR)

Plans that have higher asset to payroll ratios produce more volatile employer rates due to investment return. For example, a plan with an asset to payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset to payroll ratio of 4. Below we have shown your asset volatility ratio, a measure of the plan's current rate volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

### Liability Volatility Ratio (LVR)

Plans that have higher liability to payroll ratios produce more volatile employer rates due to investment return and changes in liability. For example, a plan with a liability to payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability to payroll ratio of 4. The liability volatility ratio is also included in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility and the asset volatility ratio, described above, will tend to move closer to this ratio as the plan matures.

<b>Rate Volatility</b>	<b>As of June 30, 2014</b>	
1. Market Value of Assets	\$	51,228
2. Payroll		195,682
3. Asset Volatility Ratio (AVR = 1. / 2.)		0.3
4. Accrued Liability	\$	49,142
5. Liability Volatility Ratio (LVR = 4. / 2.)		0.3

## Analysis of Future Investment Return Scenarios

The investment return for Fiscal Year 2014-15 was announced July 14, 2015. The investment return in Fiscal Year 2014-15 is 2.4 percent before administrative expenses. For purposes of projecting future employer rates, we are assuming a 2.4 percent investment return for Fiscal Year 2014-15.

The investment return realized during a fiscal year first affects the contribution for the fiscal year two years later. Specifically, the investment return for 2014-15 will first be reflected in the June 30, 2015 actuarial valuation that will be used to set the 2017-18 employer contribution rates, the 2015-16 investment return will first be reflected in the June 30, 2016 actuarial valuation that will be used to set the 2018-19 employer contribution rates and so forth.

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2015-16, 2016-17 and 2017-18 on the 2018-19, 2019-20 and 2020-21 employer contributions. Once again, the projected contributions assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Five different investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5<sup>th</sup> percentile return from July 1, 2015 through June 30, 2018. The 5<sup>th</sup> percentile return corresponds to a -3.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25<sup>th</sup> percentile return from July 1, 2015 through June 30, 2018. The 25<sup>th</sup> percentile return corresponds to a 2.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The third scenario assumed the return for 2015-16, 2016-17, 2017-18 would be our assumed 7.5 percent investment return which represents about a 49<sup>th</sup> percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75<sup>th</sup> percentile return from July 1, 2015 through June 30, 2018. The 75<sup>th</sup> percentile return corresponds to a 12.0 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- Finally, the last scenario is what one would expect if the markets were to give us a 95<sup>th</sup> percentile return from July 1, 2015 through June 30, 2018. The 95<sup>th</sup> percentile return corresponds to a 18.9 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.

The table below shows the estimated projected contributions and the estimated increases for your plan under the five different scenarios.

2015-18 Investment Return Scenario	Estimated Employer UAL Contribution			Estimated Total Change in Employer UAL Contribution between 2017-18 and 2020-21
	2018-19	2019-20	2020-21	
(3.8%) (5th percentile)	\$636	\$881	\$1,224	\$738
2.8% (25th percentile)	\$582	\$722	\$909	\$423
7.5%	\$543	\$603	\$667	\$181
12.0%(75th percentile)	\$506	\$0	\$0	\$(486)
18.9%(95th percentile)	\$0	\$0	\$0	\$(486)

In addition to the UAL Contribution amounts shown above the estimated employer normal cost of 14.8 percent of payroll will also be payable in each of the fiscal years shown above. The projected plan normal cost is expected to remain relatively stable over this time period.

## Analysis of Discount Rate Sensitivity

The following analysis looks at the 2016-17 total normal cost rates and liabilities under two different discount rate scenarios. Shown below are the total normal cost rates assuming discount rates that are 1 percent lower and 1 percent higher than the current valuation discount rate. This analysis gives an indication of the potential plan impacts if the PERF were to realize investment returns of 6.50 percent or 8.50 percent over the long-term.

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

<b>Sensitivity Analysis</b>			
<b>As of June 30, 2014</b>	<b>6.50% Discount Rate (-1%)</b>	<b>7.50% Discount Rate (assumed rate)</b>	<b>8.50% Discount Rate (+1%)</b>
Plan's Total Normal Cost	29.5%	23.7%	19.3%
Accrued Liability	\$56,428	\$49,142	\$43,065
Unfunded Accrued Liability	\$5,200	\$(2,086)	\$(8,163)

## Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of your plan if you had terminated your contract with CalPERS as of June 30, 2014. Your plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For this hypothetical termination liability calculation both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are included.

For the Terminated Agency Pool the CalPERS Board adopted a more conservative investment policy and asset allocation strategy. Since the Terminated Agency Pool has limited funding sources due to the fact that no future employer contributions will be made, expected benefit payments are secured by risk-free assets. With this change, CalPERS increased benefit security for members while limiting its funding risk. However, this asset allocation has a lower expected rate of return than the PERF. Consequently, the lower discount rate for the Terminated Agency pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable the table below shows a range for the hypothetical termination liability based on the lowest and highest bond yields observed during the period from July 1, 2013 through June 30, 2015.

Valuation Date	Market Value of Assets (MVA)	Hypothetical Termination Liability <sup>1,2</sup> @ 2.00%	Unfunded Termination Liability @ 2.00%	Hypothetical Termination Liability <sup>1,2</sup> @ 3.75%	Unfunded Termination Liability @ 3.75%
06/30/14	\$ 51,228	\$ 58,536	\$ 7,309	\$ 38,387	\$ (12,841)

**For plans where active members have little service the hypothetical termination liability methodology used does not fully vest active members upon termination. In these cases the hypothetical termination liability is understated.**

<sup>1</sup> The hypothetical liabilities calculated above include a 7 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions, such as wage and inflation assumptions, can be found in Appendix A.

<sup>2</sup> The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.00% on June 30, 2014 and 2.90% on June 30, 2015.

In order to terminate your plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow your plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of your plan liabilities. CalPERS strongly advises you to consult with your plan actuary before beginning this process.

## Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

	<b>June 30, 2013</b>	<b>June 30, 2014</b>
Projected Payroll for Contribution Purposes	\$ 0	\$ 213,827
Number of Members		
Active	0	1
Transferred	0	0
Separated	0	0
Retired	0	0

## List of Class 1 Benefit Provisions

- None

## **PLAN'S MAJOR BENEFIT OPTIONS**



**SECTION 1 – PLAN SPECIFIC INFORMATION FOR THE SAFETY FIRE SECOND TIER PLAN OF THE CITY OF COSTA MESA**

## Plan’s Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in Appendix B within Section 2 of this report.

	Contract package	
<b>Benefit Provision</b>	Active Fire	
Benefit Formula	2.0% @ 50	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	9.00%	
Final Average Compensation Period	Three Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Improved	
Industrial Disability	Yes	
Pre-Retirement Death Benefits		
Optional Settlement 2W	Yes	
1959 Survivor Benefit Level	level 3	
Special	Yes	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	\$500	
Survivor Allowance (PRSA)	No	
COLA	2%	

# Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

---

**Section 2 may be found on the CalPERS website  
([www.calpers.ca.gov](http://www.calpers.ca.gov)) in the Forms and  
Publications section**