ORANGE COUNTY FIRE AUTHORITY AGENDA

Budget and Finance Committee Meeting

Wednesday, July 10, 2013
12:00 Noon

Orange County Fire Authority
Regional Fire Operations and Training Center
1 Fire Authority Road
Room AE117
Irvine, California 92602

Al Murray, Chair
Elizabeth Swift, Vice Chair
Sam Allevato Trish Kelley Randal Bressette Jerry McCloskey Steven Weinberg
Bruce Channing - Ex Officio

Unless legally privileged, all supporting documentation and any writings or documents provided to a majority of the Budget and Finance Committee after the posting of this agenda, which relate to any item on this agenda will be made available for public review in the office of the Clerk of the Authority located on the 2nd floor of the OCFA Regional Fire Operations & Training Center, 1 Fire Authority Road, Irvine, CA 92602, during regular business hours, 8:00 a.m. - 5:00 p.m., Monday through Thursday, and every other Friday, (714) 573-6040. In addition, unless legally privileged, all supporting documentation and any such writings or documents will be available online at http://www.ocfa.org.

This Agenda contains a brief general description of each item to be considered. Except as otherwise provided by law, no action or discussion shall be taken on any item not appearing on the following Agenda. Supporting documents, including staff reports, are available for review at the Orange County Fire Authority Regional Fire Operations and Training Center, 1 Fire Authority Road, Irvine, CA 92602 or you may contact Sherry A.F. Wentz, Clerk of the Authority, at (714) 573-6040 Monday through Friday from 8:00 a.m. to 5:00 p.m.

If you wish to speak before the Budget and Finance Committee, please complete a Speaker Form identifying which item(s) you wish to address. Please return the completed form to the Clerk of the Authority. Speaker Forms are available on the counter noted in the meeting room.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, you should contact the Clerk of the Authority at (714) 573-6040. Notification 48 hours prior to the meeting will enable the Authority to make reasonable arrangements to assure accessibility to the meeting.

CALL TO ORDER

PLEDGE OF ALLEGIANCE by Chair Murray

ROLL CALL

PUBLIC COMMENTS

Any member of the public may address the Committee on items within the Committee's subject matter jurisdiction but which are not listed on this agenda during PUBLIC COMMENTS. However, no action may be taken on matters that are not part of the posted agenda. We request comments made on the agenda be made at the time the item is considered and that comments be limited to three minutes per person. Please address your comments to the Committee as a whole, and do not engage in dialogue with individual Committee Members, Authority staff, or members of the audience.

MINUTES

1. **Minutes for the June 12, 2013, Budget and Finance Committee Meeting**
Submitted by: Sherry Wentz, Clerk of the Authority

Recommended Action:
Approve as submitted.

CONSENT CALENDAR

No items.

DISCUSSION CALENDAR

2. **Monthly Investment Report**
Submitted by: Patricia Jakubiak, Treasurer

Recommended Action:
Review the proposed agenda item and direct staff to place the item on the agenda for the Executive Committee meeting of July 25, 2013, with the Budget and Finance Committee's recommendation that the Executive Committee receive and file the report.

3. **Status Update – Orange County Employees' Retirement System**
Submitted by: Lori Zeller, Assistant Chief, Business Services Department

Recommended Action:
Receive and file the report.

4. **Internal Control Review on Billing and Revenue Recognition of Fire Prevention Fees**
Submitted by: Lori Zeller, Assistant Chief, Business Services Department

Recommended Actions:
Review the proposed agenda item and direct staff to place the item on the agenda for the Board of Directors meeting of July 25, 2013, with the Budget and Finance Committee's recommendation that the Board of Directors take the following actions:

1. Direct staff to implement the recommendations as stated in the attached report.
2. Authorize staff to obtain the professional services of a Finance Manager to assist with the implementation of the recommended actions and to assist in strengthening the overall internal control environment surrounding fee-funded programs.
3. Direct staff to increase General Fund (121) appropriations in the FY 2013/14 Adopted Budget by $100,000 to cover the cost of a temporary and part-time Finance Manager.

REPORTS

No items.

COMMITTEE MEMBER COMMENTS

ADJOURNMENT – The next regular meeting of the Budget and Finance Committee is scheduled for Wednesday, August 14, 2013, at 12:00 noon.

AFFIDAVIT OF POSTING

I hereby certify under penalty of perjury under the laws of the State of California, that the foregoing Agenda was posted in the lobby and front gate public display case of the Orange County Fire Authority, Regional Fire Operations and Training Center, 1 Fire Authority Road, Irvine, CA, not less than 72 hours prior to the meeting. Dated this 3rd day of July 2013.

Sherry A.F. Wentz, CMC
Clerk of the Authority

UPCOMING MEETINGS:

Board of Directors Meeting (Annual BBQ) Thursday, July 25, 2013, 6:30 p.m.
(Due to Annual Board BBQ, there will not be a July Claims Settlement Committee meeting and all regular Executive Committee business will be included on Board Agenda)

Budget and Finance Committee Meeting Wednesday, August 14, 2013, 12:00 noon

MINUTES
ORANGE COUNTY FIRE AUTHORITY

Budget and Finance Committee Meeting
Wednesday, June 12, 2013
12:00 Noon

Regional Fire Operations and Training Center
Room AE117
1 Fire Authority Road
Irvine, CA 92602

CALL TO ORDER

A regular meeting of the Orange County Fire Authority Budget and Finance Committee was called to order on June 12, 2013, at 12:01 p.m. by Chair Murray.

PLEDGE OF ALLEGIANCE

Vice Chair Swift led the assembly in the Pledge of Allegiance to our Flag.

ROLL CALL

Present: Trish Kelley, Mission Viejo
Jerry McCloskey, Laguna Niguel
Al Murray, Tustin
Elizabeth Swift, Buena Park
Steven Weinberg, Dana Point

Absent: Sam Allevato, San Juan Capistrano
Randal Bressette, Laguna Hills

Also present were:
Fire Chief Keith Richter
Deputy Chief Craig Kinoshita
Assistant Chief Brian Stephens
Assistant Chief Lori Zeller
Assistant Clerk Lydia Slivkoff
General Counsel David Kendig
Assistant Chief Laura Blaul
Assistant Chief Dave Thomas
Clerk of the Authority Sherry Wentz

PUBLIC COMMENTS (F: 12.02B3)

Chair Murray opened the Public Comments portion of the meeting. Chair Murray closed the Public Comments portion of the meeting without any comments.

MINUTES

1. Minutes for the May 8, 2013, Budget and Finance Committee Meeting (F: 12.02B2)

On motion of Chair Murray and second by Director Weinberg, the Committee voted to approve the minutes of the May 8, 2013, Budget and Finance Committee Meeting. Director Kelley abstained.

CONSENT CALENDAR

No items.

DISCUSSION CALENDAR

2. Monthly Investment Report (F: 11.10D2)

Treasurer Tricia Jakubiak provided an overview of the investment report and current global market activity.

On motion of Director McCloskey and second by Director Kelley, the Committee voted unanimously to direct staff to place the item on the agenda for the Executive Committee meeting of June 27, 2013, with the Budget and Finance Committee's recommendation that the Executive Committee receive and file the report.

3. Status Update – Orange County Employees' Retirement System (F: 17.06B)

Assistant Chief Lori Zeller introduced Treasurer Tricia Jakubiak who provided a detailed report on the Orange County Employees' Retirement System (OCERS).

On motion of Director Weinberg and second by Director Kelley, the Committee voted unanimously to receive and file the report.

4. Annual Workers' Compensation Update and Actuarial Report for CY 2012 (F: 18.10A2a)

Assistant Chief Lori Zeller introduced OCFA Risk Manager Jonathan Wilby and Risk Management Analyst Rhonda Haynes who provided a PowerPoint presentation on the Annual Workers' Compensation Update and Actuarial Report for CY 2012.

Director Kelley left at this point (12:53 p.m.)

On motion of Chair Murray and second by Director Weinberg, the Committee voted unanimously to direct staff to place the item on the agenda for the Board of Directors meeting of July 25, 2013, with the Budget and Finance Committee's recommendation that the Board of Directors receive and file the report.

5. Report on Impact of the Arson Abatement Program (F: 18.18)

Assistant Chief Laura Blaul provided an update on the Arson Abatement Program and introduced Irvine Police Department Detective Barry Miller who is assigned to OCFA for the program. Detective Miller reported on the positive impacts of the Arson Abatement Program.

On motion of Chair Murray and second by Director Weinberg, the Committee voted unanimously to direct staff to place the item on the agenda for the Executive Committee meeting of June 27, 2013, with the Budget and Finance Committee's recommendation that the Executive Committee continue to contract with the City of Irvine for an Arson Abatement Officer.

REPORTS (F: 17.06B)

No items.

COMMITTEE MEMBER COMMENTS (F: 17.06B)

Director Weinberg indicated Dana Point would be holding a fireworks show on the coast. He encouraged OCFA to be vigilant in monitoring high risk fire areas during the upcoming holiday.

Chair Murray thanked OCFA staff for their assistance with Tustin’s State of the City presentation. He also thanked Chief Richter and OCFA staff for holding a press conference on fire safety and presenting a program on water safety at the Irvine Aquatic Center. Chair Murray commended staff for their hard work in keeping the public informed.

ADJOURNMENT – Chair Murray adjourned the meeting at 1:18 p.m. The next regular meeting of the Budget and Finance Committee is scheduled for Wednesday, July 10, 2013, at 12:00 noon.

Sherry A.F. Wentz, CMC
Clerk of the Authority

DISCUSSION CALENDAR - AGENDA ITEM NO. 2
BUDGET AND FINANCE COMMITTEE MEETING
July 10, 2013

TO: Budget and Finance Committee, Orange County Fire Authority

FROM: Patricia Jakubiak, Treasurer

SUBJECT: **Monthly Investment Reports**

Summary:
This agenda item is submitted to the Committee in compliance with the investment policy of the Orange County Fire Authority and with Government Code Section 53646.

Recommended Action:
Review the proposed agenda item and direct staff to place the item on the agenda for the Executive Committee meeting of July 25, 2013, with the Budget and Finance Committee's recommendation that the Executive Committee receive and file the reports.

Background:
Attached is the final monthly investment report for the month ended May 31, 2013. A preliminary investment report as of June 21, 2013, is also provided as the most complete report that was available at the time this agenda item was prepared.

Impact to Cities/County:
Not Applicable.

Fiscal Impact:
Not Applicable.

Staff Contact for Further Information:
Patricia Jakubiak, Treasurer
Triciajakubiak@ocfa.org
(714) 573-6301

Attachment:
Final Investment Report – May 2013/Preliminary Report – June 2013

Attachment

Orange County Fire Authority Monthly Investment Report

Final Report – May 2013

Preliminary Report – June 2013

Monthly Investment Report
Table of Contents

Orange County Fire Authority

Final Investment Report

May 31, 2013

EXECUTIVE SUMMARY

Portfolio Activity & Earnings

During the month of May 2013, the size of the portfolio decreased from $161.6 million to $157.5 million. Major receipts for the month included apportionments of property taxes for a total of $3.2 million and various intergovernmental contract and grants payments totaling $9.1 million. In addition, significant receipts for the month also included a cash contract payment for $2.9 million. Significant disbursements for the month included primarily biweekly payrolls. The portfolio's balance is expected to decrease in the following month as there are no major receipts scheduled for June.

In May, the portfolio's yield to maturity (365-day equivalent) remained the same as in the prior month at 0.28%. The effective rate of return decreased by 7 basis points to 0.29% for the month, but stayed unchanged at 0.32% for the fiscal year to date. The average maturity of the portfolio shortened by 15 days to 292 days to maturity.

Economic News

The U.S. economic activity continued to improve moderately in May 2013; however, overall activity remained mixed. Employment conditions continued to show improvement in May. There were a total of 175,000 new jobs created for the month, a slightly better employment report than expected. Unemployment conditions, on the other hand, worsened slightly edging to 7.6% from 7.5% previously. Both the Conference Board Consumer Confidence Index and the University of Michigan Consumer Sentiment Index increased better than expected for the month. Durable goods orders and retail sales also came in better than expected. Housing activity continued improving, and the NFIB (National Federation of Independent Business) small business optimism index rose slightly further in May. While the non-manufacturing activity increased modestly in May, the manufacturing sector continued declining, pushing it into a contraction territory. Industrial production stayed unchanged. Energy and food prices reversed the recent trend and increased in May, although the CPI (Consumer Price Index) remained contained. On June 19, 2013, at the second day of its scheduled meeting, the FOMC (Federal Open Market Committee) voted to keep the federal funds rate unchanged at a target range of 0-0.25%. The Committee's outlook on the economy was slightly further upgraded. It also reiterated its commitment to be "flexible" with respect to the QE (Quantitative Easing) asset purchasing program.

BENCHMARK COMPARISON AS OF MAY 31, 2013

3 Month T-Bill:	*0.04%*	*1 Year T-Bill:*	*0.12%*
6 Month T-Bill:	*0.08%*	*LAIF:*	*0.25%*
OCFA Portfolio:	*0.29%*		

PORTFOLIO SIZE, YIELD, & DURATION

	Current Month	***Prior Month***	***Prior Year***
Book Value-	*$157,466,893*	*$161,624,303*	*$147,754,606*
Yield to Maturity (365 day)	*0.28%*	*0.28%*	*0.62%*
Effective Rate of Return	*0.29%*	*0.36%*	*0.46%*
Days to Maturity	*292*	*307*	*754*

Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602
(714)573-6301

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Summary
May 31, 2013

Investments	Par Value	Market Value (See Note 1 on page 9)	Book Value (See Note 2 on page 9)	% of Portfolio	Term	Days to Maturity	YTM/C 360 Equiv.	YTM/C 365 Equiv.
Money Mkt Mutual Funds/Cash	12,397,092.26	12,397,092.26	12,397,092.26	7.83	1	1	0.001	0.001
Commercial Paper Disc. -Amortizing	9,000,000.00	8,995,140.00	8,996,175.00	5.68	127	90	0.170	0.172
Federal Agency Coupon Securities	51,000,000.00	50,795,040.00	51,004,762.71	32.20	1,269	834	0.557	0.565
Federal Agency Disc. -Amortizing	36,000,000.00	35,996,130.00	35,994,600.00	22.72	116	79	0.060	0.061
Local Agency Investment Funds	50,000,000.00	50,050,930.00	50,000,000.00	31.57	1	1	0.242	0.245
Investments	**158,397,092.26**	**158,234,332.26**	**158,392,629.97**	**100.00%**	**443**	**292**	**0.279**	**0.283**
Cash and Accrued Interest (See Note 4 on page 9)								
Passbook/Checking (not included in yield calculations)	-1,011,375.81	-1,011,375.81	-1,011,375.81		0	0	0.000	0.000
Accrued Interest at Purchase		1,553.33	1,553.33					
Subtotal		-1,009,822.48	-1,009,822.48					
Total Cash and Investments	**157,385,716.45**	**157,224,509.78**	**157,382,807.49**		**443**	**292**	**0.279**	**0.283**

Total Earnings	May 31 Month Ending	Fiscal Year To Date
Current Year	39,019.10	352,443.04
Average Daily Balance	**157,410,229.26**	**121,847,846.37**
Effective Rate of Return	**0.29%**	**0.32%**

"I certify that this investment report accurately reflects all pooled investments and is in compliance with the investment policy adopted by the Board of Directors to be effective on January 1, 2013. A copy of this policy is available from the Clerk of the Authority. Sufficient investment liquidity and anticipated revenues are available to meet budgeted expenditure requirements for the next thirty days and the next six months."

P Jakubiak 6/7/13

Patricia Jakubiak, Treasurer

Cash and Investments with GASB 31 Adjustment:

Book Value of Cash & Investments before GASB 31 (Above)	*$*	*157,382,807.49*
GASB 31 Adjustment to Books (See Note 3 on page 9)	*$*	*84,085.98*
Total	*$*	*157,466,893.47*

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Details - Investments
May 31, 2013

(See Note 1 on page 9) *(See Note 2 on page 9)*

CUSIP	Investment #	Issuer	Average Balance	Purchase Date	Par Value	Market Value	Book Value	Stated Rate	YTM/C 365	Days to Maturity	Maturity Date
Money Mkt Mutual Funds/Cash											
				(See Note 4 on page 9)							
SYS528	528	High Mark 100% US Treasury MMF			12,397,092.26	12,397,092.26	12,397,092.26	0.001	0.001	1	
		Subtotal and Average	**6,416,411.30**		**12,397,092.26**	**12,397,092.26**	**12,397,092.26**		**0.001**	**1**	
Commercial Paper Disc. -Amortizing											
36959HVW4	806	GEN ELEC CAP CRP		04/25/2013	9,000,000.00	8,995,140.00	8,996,175.00	0.170	0.172	90	08/30/2013
		Subtotal and Average	**8,995,537.50**		**9,000,000.00**	**8,995,140.00**	**8,996,175.00**		**0.172**	**90**	
Federal Agency Coupon Securities											
3133ECBT0	799	Federal Farm Credit Bank (Callable anytime)		12/26/2012	9,000,000.00	8,997,030.00	9,000,000.00	0.375	0.375	755	06/26/2015
3133ECM76	809	Federal Farm Credit Bank (Callable 7/22/13)		04/25/2013	9,000,000.00	8,955,540.00	8,993,910.58	0.400	0.424	1,056	04/22/2016
3133804V6	787	Fed Home Loan Bank (Callable anytime)		08/09/2012	6,000,000.00	5,921,400.00	6,000,000.00	1.000	0.981	1,530	08/09/2017
313380B22	788	Fed Home Loan Bank (Callable anytime)		08/20/2012	6,000,000.00	6,000,120.00	6,000,000.00	0.450	0.440	810	08/20/2015
3133813R4	800	Fed Home Loan Bank (Callable 6/9/13)		12/20/2012	9,000,000.00	8,945,190.00	9,013,081.98	1.000	0.818	8	11/09/2017
313382DC4	803	Fed Home Loan Bank (Callable 6/7/13)		03/15/2013	12,000,000.00	11,975,760.00	11,997,770.15	0.470	0.477	1,010	03/07/2016
		Subtotal and Average	**51,004,764.09**		**51,000,000.00**	**50,795,040.00**	**51,004,762.71**		**0.565**	**834**	
Federal Agency Disc. -Amortizing											
313589MV2	808	Fed Natl Mortg Assoc		04/25/2013	9,000,000.00	8,998,020.00	8,997,360.00	0.080	0.081	132	10/11/2013
313397LR0	807	Freddie Mac		04/25/2013	9,000,000.00	8,998,740.00	8,998,180.00	0.070	0.071	104	09/13/2013
313385HT6	804	Fed Home Loan Bank		04/25/2013	9,000,000.00	8,999,730.00	8,999,660.00	0.040	0.041	34	07/05/2013
313385JH0	805	Fed Home Loan Bank		04/25/2013	9,000,000.00	8,999,640.00	8,999,400.00	0.050	0.051	48	07/19/2013
		Subtotal and Average	**42,670,935.73**		**36,000,000.00**	**35,996,130.00**	**35,994,600.00**		**0.061**	**79**	
Local Agency Investment Funds											
SYS336	336	Local Agency Invstmt Fund			50,000,000.00	50,050,930.00	50,000,000.00	0.245	0.245	1	
		Subtotal and Average	**48,322,580.65**		**50,000,000.00**	**50,050,930.00**	**50,000,000.00**		**0.245**	**1**	
		Total and Average	**157,410,229.26**		**158,397,092.26**	**158,234,332.26**	**158,392,629.97**		**0.283**	**292**	

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Details - Cash
May 31, 2013

CUSIP	Investment #	Issuer	Average Balance	Purchase Date	Par Value	Market Value	Book Value	Stated Rate	YTM/C 365	Days to Maturity
Money Mkt Mutual Funds/Cash										
SYS10104	10104	American Benefit Plan Admin		07/01/2012	15,000.00	15,000.00	15,000.00		0.000	1
SYS10033	10033	Revolving Fund		07/01/2012	20,000.00	20,000.00	20,000.00		0.000	1
SYS4	4	Union Bank of California		07/01/2012	-1,296,375.81	-1,296,375.81	-1,296,375.81	*(See Note 4 on page 9)*	0.000	1
SYS361	361	YORK		07/01/2012	250,000.00	250,000.00	250,000.00		0.000	1
		Average Balance	**0.00**	Accrued Interest at Purchase		1,553.33	1,553.33			**0**
				Subtotal		-1,009,822.48	-1,009,822.48			
	Total Cash and Investmentss		**157,410,229.26**		**157,385,716.45**	**157,224,509.78**	**157,382,807.49**		**0.283**	**292**

(This Page Intentionally Left Blank)

ORANGE COUNTY FIRE AUTHORITY
Aging Report
By Maturity Date
As of June 1, 2013

Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602
(714)573-6301

					Maturity Par Value	Percent of Portfolio	Current Book Value	Current Market Value
Aging Interval:	0 days	(06/01/2013 - 06/01/2013)	6 Maturities	0 Payments	61,385,716.45	39.00%	61,385,716.45	61,436,646.45
Aging Interval:	1 - 30 days	(06/02/2013 - 07/01/2013)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval:	31 - 60 days	(07/02/2013 - 07/31/2013)	2 Maturities	0 Payments	18,000,000.00	11.44%	17,999,060.00	17,999,370.00
Aging Interval:	61 - 91 days	(08/01/2013 - 08/31/2013)	1 Maturities	0 Payments	9,000,000.00	5.72%	8,996,175.00	8,995,140.00
Aging Interval:	92 - 121 days	(09/01/2013 - 09/30/2013)	1 Maturities	0 Payments	9,000,000.00	5.72%	8,998,180.00	8,998,740.00
Aging Interval:	122 - 152 days	(10/01/2013 - 10/31/2013)	1 Maturities	0 Payments	9,000,000.00	5.72%	8,997,360.00	8,998,020.00
Aging Interval:	153 - 183 days	(11/01/2013 - 12/01/2013)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval:	184 - 274 days	(12/02/2013 - 03/02/2014)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval:	275 - 365 days	(03/03/2014 - 06/01/2014)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval:	366 - 1095 days	(06/02/2014 - 05/31/2016)	4 Maturities	0 Payments	36,000,000.00	22.87%	35,991,680.73	35,928,450.00
Aging Interval:	1096 - 1825 days	(06/01/2016 - 05/31/2018)	2 Maturities	0 Payments	15,000,000.00	9.53%	15,013,081.98	14,866,590.00
Aging Interval:	1826 days and after	(06/01/2018 -)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
		Total for	17 Investments	0 Payments		100.00	157,381,254.16	157,222,956.45

NOTES TO PORTFOLIO MANAGEMENT REPORT

Note 1: Market value of the LAIF investment is calculated using a fair value factor provided by LAIF. The Union Bank Trust Department provides market values of the remaining investments.

Note 2: Book value reflects the cost or amortized cost before the GASB 31 accounting adjustment.

Note 3: GASB 31 requires governmental entities to report investments at fair value in the financial statements and to reflect the corresponding unrealized gains/ (losses) as a component of investment income. The GASB 31 adjustment is recorded only at fiscal year end. The adjustment for June 30, 2012 includes an increase of $60,965 to the LAIF investment and an increase of $23,121 to the remaining investments.

Note 4: The Highmark money market mutual fund functions as the Authority's sweep account. Funds are transferred to and from the sweep account to/from OCFA's checking account in order to maintain a target balance of $1,000,000 in checking. Since this transfer occurs at the beginning of each banking day, the checking account sometimes reflects a negative balance at the close of the banking day. The negative closing balance is not considered an overdraft since funds are available in the money market mutual fund. The purpose of the sweep arrangement is to provide sufficient liquidity to cover outstanding checks, yet allow that liquidity to be invested while payment of the outstanding checks is pending.

Local Agency Investment Fund (LAIF)

As of May 31, 2013, OCFA has $50,000,000 invested in LAIF. The fair value of OCFA's LAIF investment is calculated using a participant fair value factor provided by LAIF on a quarterly basis. The fair value factor as of March 31, 2013 is 1.0010186. When applied to OCFA's LAIF investment, the fair value is $50,050,930 or $50,930 above cost. Although the fair value of the LAIF investment is higher than cost, OCFA can withdraw the actual amount invested at any time.

LAIF is included in the State Treasurer's Pooled Money Investment Account (PMIA) for investment purposes. The PMIA market valuation at May 31, 2013 is included on the following page.

State of California
Pooled Money Investment Account
Market Valuation
5/31/2013

Description	Carrying Cost Plus Accrued Interest Purch.	Fair Value	Accrued Interest
United States Treasury:			
Bills	$ 20,069,019,750.57	$ 20,086,833,150.00	NA
Notes	$ 17,565,658,310.80	$ 17,580,780,000.00	$ 17,465,528.50
Federal Agency:			
SBA	$ 516,237,143.33	$ 515,686,146.17	$ 523,057.38
MBS-REMICs	$ 205,010,894.93	$ 222,080,493.92	$ 980,230.01
Debentures	$ 1,781,080,493.03	$ 1,777,697,000.00	$ 4,846,653.00
Debentures FR	$ -	$ -	$ -
Discount Notes	$ 7,542,580,194.46	$ 7,549,237,000.00	NA
GNMA	$ 652.85	$ 657.97	$ 6.78
IBRD Debenture	$ 450,069,344.00	$ 450,353,500.00	$ 920,140.00
IBRD Deb FR	$ -	$ -	$ -
CDs and YCDs FR	$ 400,000,000.00	$ 400,000,000.00	$ 105,551.67
Bank Notes	$ -	$ -	$ -
CDs and YCDs	$ 9,900,061,243.23	$ 9,896,123,231.56	$ 4,013,791.67
Commercial Paper	$ 4,748,725,423.63	$ 4,748,794,062.46	NA
Corporate:			
Bonds FR	$ -	$ -	$ -
Bonds	$ -	$ -	$ -
Repurchase Agreements	$ -	$ -	$ -
Reverse Repurchase	$ -	$ -	$ -
Time Deposits	$ 4,421,640,000.00	$ 4,421,640,000.00	NA
AB 55 & GF Loans	$ 280,609,191.43	$ 280,609,191.43	NA
TOTAL	$ 67,880,692,642.26	$ 67,929,834,433.51	$ 28,854,959.01

Fair Value Including Accrued Interest $ 67,958,689,392.52

Repurchase Agreements, Time Deposits, AB 55 & General Fund loans, and
Reverse Repurchase agreements are carried at portfolio book value (carrying cost).

Orange County Fire Authority

Preliminary Investment Report

June 21, 2013

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Summary
June 21, 2013

Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602
(714)573-6301

Investments	Par Value	Market Value (See Note 1 on page 18)	Book Value (See Note 2 on page 18)	% of Portfolio	Term	Days to Maturity	YTM/C 360 Equiv.	YTM/C 365 Equiv.
Money Mkt Mutual Funds/Cash	2,767,101.74	2,767,101.74	2,767,101.74	1.87	1	1	0.001	0.001
Commercial Paper Disc. -Amortizing	9,000,000.00	8,996,670.00	8,997,067.50	6.09	127	69	0.170	0.172
Federal Agency Coupon Securities	51,000,000.00	50,492,760.00	51,004,760.65	34.52	1,269	818	0.557	0.565
Federal Agency Disc. -Amortizing	36,000,000.00	35,997,120.00	35,995,860.00	24.36	116	58	0.060	0.061
Local Agency Investment Funds	49,000,000.00	49,049,911.40	49,000,000.00	33.16	1	1	0.242	0.245
Investments	**147,767,101.74**	**147,303,563.14**	**147,764,789.89**	**100.00%**	**474**	**301**	**0.297**	**0.301**
Cash and Accrued Interest								
Passbook/Checking (not included in yield calculations)	871,702.27	871,702.27	871,702.27		1	1	0.000	0.000
Accrued Interest at Purchase		1,553.33	1,553.33					
Subtotal		873,255.60	873,255.60					
Total Cash and Investments	**148,638,804.01**	**148,176,818.74**	**148,638,045.49**		**474**	**301**	**0.297**	**0.301**

Total Earnings	June 21 Month Ending	Fiscal Year To Date
Current Year	26,879.91	379,322.95
Average Daily Balance	**155,386,135.33**	**123,826,228.59**
Effective Rate of Return	**0.30%**	**0.31%**

"I certify that this investment report accurately reflects all pooled investments and is in compliance with the investment policy adopted by the Board of Directors to be effective on January 1, 2013. A copy of this policy is available from the Clerk of the Authority. Sufficient investment liquidity and anticipated revenues are available to meet budgeted expenditure requirements for the next thirty days and the next six months."

P. Jakubiak   6/28/13

Patricia Jakubiak, Treasurer

Cash and Investments with GASB 31 Adjustment:

Book Value of Cash & Investments before GASB 31 (Above)	*$*	*148,638,045.49*
GASB 31 Adjustment to Books (See Note 3 on page 18)	*$*	*84,085.98*
Total	*$*	*148,722,131.47*

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Details - Investments
June 21, 2013

(See Note 1 on page 18) (See Note 2 on page 18)

CUSIP	Investment #	Issuer	Average Balance	Purchase Date	Par Value	Market Value	Book Value	Stated Rate	YTM/C 365	Days to Maturity	Maturity Date
Money Mkt Mutual Funds/Cash											
SYS528	528	High Mark 100% US Treasury MMF			2,767,101.74	2,767,101.74	2,767,101.74	0.001	0.001	1	
		Subtotal and Average	9,437,090.25		2,767,101.74	2,767,101.74	2,767,101.74		0.001	1	
Commercial Paper Disc. -Amortizing											
36959HVW4	806	GEN ELEC CAP CRP		04/25/2013	9,000,000.00	8,996,670.00	8,997,067.50	0.170	0.172	69	08/30/2013
		Subtotal and Average	8,996,642.50		9,000,000.00	8,996,670.00	8,997,067.50		0.172	69	
Federal Agency Coupon Securities											
3133ECBT0	799	Federal Farm Credit Bank (Callable anytime)		12/26/2012	9,000,000.00	8,983,530.00	9,000,000.00	0.375	0.375	734	06/26/2015
3133ECM76	809	Federal Farm Credit Bank (Callable 7/22/13)		04/25/2013	9,000,000.00	8,909,100.00	8,994,033.43	0.400	0.424	1,035	04/22/2016
3133804V6	787	Fed Home Loan Bank (Callable anytime)		08/09/2012	6,000,000.00	5,851,740.00	6,000,000.00	1.000	0.981	1,509	08/09/2017
313380B22	788	Fed Home Loan Bank (Callable anytime)		08/20/2012	6,000,000.00	5,993,640.00	6,000,000.00	0.450	0.440	789	08/20/2015
3133813R4	800	Fed Home Loan Bank (Callable 7/9/13)		12/20/2012	9,000,000.00	8,828,550.00	9,012,910.06	1.000	0.818	17	11/09/2017
313382DC4	803	Fed Home Loan Bank (Callable anytime)		03/15/2013	12,000,000.00	11,926,200.00	11,997,817.16	0.470	0.477	989	03/07/2016
		Subtotal and Average	51,004,761.63		51,000,000.00	50,492,760.00	51,004,760.65		0.565	818	
Federal Agency Disc. -Amortizing											
313589MV2	808	Fed Natl Mortg Assoc		04/25/2013	9,000,000.00	8,996,380.00	8,997,780.00	0.080	0.081	111	10/11/2013
313397LR0	807	Freddie Mac		04/25/2013	9,000,000.00	8,999,010.00	8,998,547.50	0.070	0.071	83	09/13/2013
313385HT6	804	Fed Home Loan Bank		04/25/2013	9,000,000.00	8,999,910.00	8,999,870.00	0.040	0.041	13	07/05/2013
313385JH0	805	Fed Home Loan Bank		04/25/2013	9,000,000.00	8,999,820.00	8,999,662.50	0.050	0.051	27	07/19/2013
		Subtotal and Average	35,995,260.00		36,000,000.00	35,997,120.00	35,995,860.00		0.061	58	
Local Agency Investment Funds											
SYS336	336	Local Agency Invstmt Fund			49,000,000.00	49,049,911.40	49,000,000.00	0.245	0.245	1	
		Subtotal and Average	49,952,380.95		49,000,000.00	49,049,911.40	49,000,000.00		0.245	1	
		Total and Average	155,386,135.33		147,767,101.74	147,303,563.14	147,764,789.89		0.301	301	

ORANGE COUNTY FIRE AUTHORITY
Portfolio Management
Portfolio Details - Cash
June 21, 2013

CUSIP	Investment #	Issuer	Average Balance	Purchase Date	Par Value	Market Value	Book Value	Stated Rate	YTM/C 365	Days to Maturity
Money Mkt Mutual Funds/Cash										
SYS10104	10104	American Benefit Plan Admin		07/01/2012	15,000.00	15,000.00	15,000.00		0.000	1
SYS10033	10033	Revolving Fund		07/01/2012	20,000.00	20,000.00	20,000.00		0.000	1
SYS4	4	Union Bank of California		07/01/2012	586,702.27	586,702.27	586,702.27		0.000	1
SYS361	361	YORK		07/01/2012	250,000.00	250,000.00	250,000.00		0.000	1
		Average Balance	**0.00**	Accrued Interest at Purchase		1,553.33	1,553.33			1
				Subtotal		873,255.60	873,255.60			
		Total Cash and Investmentss	**155,386,135.33**		**148,638,804.01**	**148,176,818.74**	**148,638,045.49**		**0.301**	**301**

(This Page Intentionally Left Blank)

ORANGE COUNTY FIRE AUTHORITY
Aging Report
By Maturity Date
As of June 22, 2013

Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602
(714)573-6301

Aging Interval	Date Range	Maturities	Payments	Maturity Par Value	Percent of Portfolio	Current Book Value	Current Market Value
Aging Interval: 0 days	(06/22/2013 - 06/22/2013)	6 Maturities	0 Payments	52,638,804.01	35.41%	52,638,804.01	52,688,715.41
Aging Interval: 1 - 30 days	(06/23/2013 - 07/22/2013)	2 Maturities	0 Payments	18,000,000.00	12.11%	17,999,532.50	17,999,730.00
Aging Interval: 31 - 60 days	(07/23/2013 - 08/21/2013)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval: 61 - 91 days	(08/22/2013 - 09/21/2013)	2 Maturities	0 Payments	18,000,000.00	12.11%	17,995,615.00	17,995,680.00
Aging Interval: 92 - 121 days	(09/22/2013 - 10/21/2013)	1 Maturities	0 Payments	9,000,000.00	6.05%	8,997,780.00	8,998,380.00
Aging Interval: 122 - 152 days	(10/22/2013 - 11/21/2013)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval: 153 - 183 days	(11/22/2013 - 12/22/2013)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval: 184 - 274 days	(12/23/2013 - 03/23/2014)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval: 275 - 365 days	(03/24/2014 - 06/22/2014)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Aging Interval: 366 - 1095 days	(06/23/2014 - 06/21/2016)	4 Maturities	0 Payments	36,000,000.00	24.22%	35,991,850.59	35,812,470.00
Aging Interval: 1096 - 1825 days	(06/22/2016 - 06/21/2018)	2 Maturities	0 Payments	15,000,000.00	10.09%	15,012,910.06	14,680,290.00
Aging Interval: 1826 days and after	(06/22/2018 -)	0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
	Total for	17 Investments	0 Payments		100.00	148,636,492.16	148,175,265.41

NOTES TO PORTFOLIO MANAGEMENT REPORT

Note 1: Market value of the LAIF investment is calculated using a fair value factor provided by LAIF. The Union Bank Trust Department provides market values of the remaining investments.

Note 2: Book value reflects the cost or amortized cost before the GASB 31 accounting adjustment.

Note 3: GASB 31 requires governmental entities to report investments at fair value in the financial statements and to reflect the corresponding unrealized gains/ (losses) as a component of investment income. The GASB 31 adjustment is recorded only at fiscal year end. The adjustment for June 30, 2012 includes an increase of $60,965 to the LAIF investment and an increase of $23,121 to the remaining investments.

Note 4: The Highmark money market mutual fund functions as the Authority's sweep account. Funds are transferred to and from the sweep account to/from OCFA's checking account in order to maintain a target balance of $1,000,000 in checking. Since this transfer occurs at the beginning of each banking day, the checking account sometimes reflects a negative balance at the close of the banking day. The negative closing balance is not considered an overdraft since funds are available in the money market mutual fund. The purpose of the sweep arrangement is to provide sufficient liquidity to cover outstanding checks, yet allow that liquidity to be invested while payment of the outstanding checks is pending.

DISCUSSION CALENDAR – AGENDA ITEM NO. 3
BUDGET AND FINANCE COMMITEE MEETING
July 10, 2013

TO: Budget and Finance Committee, Orange County Fire Authority

FROM: Lori Zeller, Assistant Chief
Business Services Department

SUBJECT: **Monthly Status Update - Orange County Employees' Retirement System**

Summary:
This agenda item is submitted to provide a status update regarding steps taken during June 2013, to improve the Orange County Employees' Retirement System's (OCERS) financial policies, procedures, and practices.

Recommended Action:
Receive and file the report.

Background:
In 2010 and 2011, accounting issues were identified at OCERS impacting actuarial calculations of the value of assets and liabilities attributable to the various plan sponsors. The total accounting values at OCERS were correct, but the attribution of values to individual plan sponsors required adjustment. A large amount of work was performed by OCERS and plan sponsor staff members to correct the issues, and ongoing improvement plans were established by OCERS. Following these events, the OCFA's Budget and Finance Committee directed OCFA staff to provide routine updates to the Committee regarding financial activities occurring at OCERS.

Actions Taken/Financial Policies & Practices – June 2013

OCERS BOARD OF RETIREMENT – June 17, 2013:

DECEMBER 31, 2012 VALUATION
Mr. Andy Yeung of The Segal Company presented the December 31, 2012 actuarial valuation to the OCERS Board for final approval. This valuation is the first to reflect the cost impact of the Board's decision last year to lower the assumed earnings rate from 7.75% to 7.25%. The cost impact of that decision is being phased in over a two-year period however. This valuation presents employer and employee contribution rates that will first be effective July 1, 2014. (Attachment 1)

ACTUARIAL FUNDING POLICY (AMORTIZATION) AND RESPONSE TO RAEL & LETSON
Mr. Andy Yeung of The Segal Company continued the discussion of the OCERS Board's Actuarial Funding Policy. Mr. Yeung provided a 32 slide presentation, a synopsis of the prior 53 slide presentation used by Mr. Paul Angelo, to help guide the Board in its discussion of an amortization schedule as part of the Board's broader Actuarial Funding Policy. (Attachment 2)

The Board considered two fundamental questions:

1. What amortization schedule to approve for FUTURE changes in unfunded liabilities, liabilities that have not even occurred yet (therefore Segal cannot provide a cost impact statement)? Should the Board move from the current 30 year amortization schedule for

FUTURE liabilities caused by assumption or method changes, to some lower number such as 25 years which is the Segal recommendation or not? The Board voted to amortize over 25 years for future unfunded liabilities.

2. Whether or not to "reamortize" the CURRENT unfunded liability, by either accelerating or decelerating OCERS current progress towards full funding? Segal did not recommend any change to the current amortization schedules, which result in a current net amortization payment equivalent to about 19-20 years. The Board voted not to change the amortization schedule for the current unfunded liability.

The Board also considered the December 10, 2012 memo from the actuarial firm of Rael & Letson (Attachment 3), outlining other options the OCERS Board might consider regarding amortization of unfunded liabilities, commissioned by the Association of Orange County Deputy Sheriffs (AOCDS), with a written response provided by The Segal Company. (Attachment 4) The Board did not accept any of the recommendations from Rael & Letson.

Staff will continue to monitor actions taken by OCERS to improve its financial policies and practices, and will report back in August regarding progress made during the next month.

Impact to Cities/County:
Any increase or decrease in OCFA's retirement costs will impact the OCFA's overall budget, which can potentially impact the funds available for services provided to the communities we serve. In addition, annual changes to OCFA's salary and benefit costs impact the charges passed on to OCFA's contract members.

Fiscal Impact:
Any changes to the amortization of future UAALs will apply, at the earliest, to the 2013 actuarial valuation and would be implemented in Fiscal Year 2015/16 at the earliest. Longer amortization periods result in lower contributions and lower contribution volatility. Conversely, shorter amortization periods get to full funding sooner but at the price of higher current contributions and higher contribution volatility. It is not possible to quantify in advance the full future cost impact associated with adopting any of the alternative amortization periods for future changes in UAAL simply because the plan's future changes in UAAL are not yet identified.

Staff Contacts for Further Information:
Lori Zeller, Assistant Chief/Business Services Department
LoriZeller@ocfa.org
(714) 573-6020

Tricia Jakubiak, Treasurer
TriciaJakubiak@ocfa.org
(714) 573-6301

Attachments:
1. OCERS December 31, 2012 Actuarial Valuation
2. The Segal Company Funding Policy Presentation
3. Letter from Rael & Letson December 10, 2012
4. Letter from the Segal Company May 16, 2013

Orange County Employees Retirement System

Actuarial Valuation and Review
as of December 31, 2012

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

SEGAL

Attachment 1

The Segal Company
100 Montgomery Street, Suite 500 San Francisco, CA 94104
T 415.263.8200 F 415.263.8290 www.segalco.com

May 31, 2013

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of December 31, 2012. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2014-2015 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census and the unaudited financial information on which our calculations were based were provided by the Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

We are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board of Retirement are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely

THE SEGAL COMPANY

By:

Paul Angelo, FSA, MAAA, FCA, EA	*Andy Yeung, ASA, MAAA, FCA, EA*
Senior Vice President and Actuary	*Vice President and Associate Actuary*

AW/bqb

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Purpose

This report has been prepared by The Segal Company to present a valuation of the Orange County Employees Retirement System as of December 31, 2012. The valuation was performed to determine whether the assets and contributions are expected to be sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement System, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, retired members, and beneficiaries as of December 31, 2012, provided by the Retirement System;
- The assets of the Plan as of December 31, 2012, provided by the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have continued with the Board's funding policy to amortize the outstanding balance of the unfunded actuarial accrued liability (UAAL) from the December 31, 2004 valuation over a declining period, currently 22 years[1]. Any increases or decreases in unfunded actuarial accrued liabilities that arise in future years due to actuarial gains or losses will be amortized over separate 15-year periods. Any increases or decreases in UAAL due to changes in actuarial assumptions are amortized over separate 30-year periods. The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2014 through June 30, 2015.

[1] *We have also used 22 years to amortize the outstanding balance of the UAAL established in the December 31, 2009 valuation as a result of including additional premium pay items as pensionable salary and the new UAAL established in the December 31, 2010 valuation as a result of reallocating contributions and benefit payments among Rate Groups.*

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The California Public Employees' Pension Reform Act (CalPEPRA) of 2013 (AB340) was passed on September 12, 2012 and became effective on January 1, 2013. In general, it affects new members who enter the plan on or after January 1, 2013. New plan provisions include new benefit formulas, a limit on pensionable income, 3-year final average salary, and new cost sharing by members. The impact of AB340 has been addressed in this report. We understand that OCERS has created new CalPEPRA plans for members covered under AB340, and we have included in this report employee and employer rates for members who will be covered under those plans.

  In this report, the CalPEPRA plan contribution rates have been developed based on the same methods used to estimate the costs in our new tier reports dated January 8, 2013 and January 25, 2013 for the 2012/2013 and 2013/2014 fiscal years, respectively. In particular, as the new plan formulas are only offered to new employees, and since data for such employees is not yet available, we have continued to assume in this valuation that the demographic profiles (e.g., entry age, composition of male versus female, etc.) of the new employees in each Rate Group can be approximated by the data profiles of current active members hired after January 1, 2011 as reported in the December 31, 2011 valuation, with the exception of Rate Groups 6, 7, 9, 10 and 11 for which we used data for current active members hired in the last several years prior to the December 31, 2011 valuation in order to have a larger population[1]. With the exception of the service retirement assumptions and the elimination of the annual payoffs assumptions, the contribution rates for the CalPEPRA plans in this report are based on the actuarial assumptions and methodologies adopted by the OCERS Board of Retirement for use in the December 31, 2012 valuation.

- For current members covered under the non-CalPEPRA plans, it is our understanding that the implementation of the compensation earnable provisions found in AB 197 (that became effective on January 1, 2013) should not have a material impact on their compensation amounts. For that reason, we have not made any adjustments in this valuation for those members.

[1] *We have modified the demographic profiles for use in determining the contribution rates for the two CalPEPRA plans in Rate Group 2 based on the data provided after we published our new tier reports. Contribution rates were estimated in the original CalPEPRA studies on both benefit plans assuming alternatively that 391 employees in Rate Group 2 hired within one year of December 31, 2011 would enroll under either the 1.62% at 65 or the 2.5% at 67 formula. Since the original CalPEPRA studies were completed, data was provided by OCERS to isolate County attorneys who can only enroll under the 2.5% at 67 formula. Out of the 391 new employees, a total of 27 were County attorneys, San Juan Capistrano employees or OCERS management employees who would be enrolled under the 2.5% at 65 formula. Contribution rates under the 2.5% at 67 formula were recalculated in the December 31, 2012 valuation using these 27 employees. Contribution rates under the 1.62% at 65 formula were recalculated in this December 31, 2012 valuation using the remaining 364 employees.*

Ref: Pg. 70

- The results of this valuation reflect changes in economic actuarial assumptions adopted by the Board for the December 31, 2012 valuation. All of the assumptions recommended by Segal in our Review of Economic Assumptions report dated October 5, 2012 were adopted and have been applied in this valuation, including the alternative recommendation of an assumed investment earnings rate of 7.25%. The adopted changes were documented in that report and are also outlined in Section 4, Exhibit IV of this report.

Ref: Pg. 69 and 126

- The ratio of the valuation value of assets to the actuarial accrued liabilities has decreased from 67.03% to 62.52%. For informational purposes only, we have also prepared in Appendix C the funded ratio for each Rate Group. The System's funded ratio measured on a market value basis increased from 62.60% to 63.17%. The System's unfunded actuarial accrued liability has increased from $4,458.6 million as of December 31, 2011 to $5,675.7 million as of December31, 2012. The increase in unfunded actuarial accrued liability is mainly due to lower than expected investment return (after smoothing) and changes in economic assumptions offset somewhat by lower than expected salary increases. A reconciliation of the System's unfunded actuarial accrued liability is provided in Section 3, Exhibit H.

Ref: Pg. 62

Ref: Pg. 31

- The aggregate employer rate calculated in this valuation has increased from 34.71% of payroll to 41.64% of payroll. The reasons for the changes are: (i) unfavorable investment return (after smoothing), (ii) growth in total payroll less than expected, (iii) changes in economic assumptions, and (iv) other experience losses, offset somewhat by (v) lower than expected individual salary increases. A reconciliation of the System's aggregate employer rate is provided in Section 2, Subsection D (see Chart 15). A reconciliation of the employer contribution rate by Rate Group is provided in Appendix D.

Ref: Pg. 127

  Note that the Board adopted a two-year phase-in of the impact of the change in economic assumptions on the employer contribution rates. After reflecting the two-year phase-in, the aggregate employer rate calculated in this valuation is 39.32% of payroll.

Ref: Pg. 32

- The aggregate member rate calculated in this valuation has increased from 11.47% of payroll to 12.87% of payroll. The change in the aggregate member rate is due to the changes in economic assumptions and changes in membership demographics. A reconciliation of the System's aggregate member rate is provided in Section 2, Subsection D (see Chart 16).

Ref: Pgs. 15 – 26

- This report contains contribution rates for some new benefit formulas within some Rate Groups for which there were no active employees (and no reported compensation) as of December 31, 2012. The normal cost rates for those benefit formulas have been updated in this report based on prior cost studies prepared using hypothetical membership profiles in conjunction with the adoption of those benefit formulas, updated to reflect the new economic assumptions adopted by the Board for the December 31, 2012 valuation.

Ref: Pg. 5

- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total net unrecognized investment gain as of December 31, 2012 is $97,451,000 (as compared to a net unrecognized loss of $598,987,000 as of

December 31, 2011). This deferred investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years and will help offset any investment losses that may occur after December 31, 2012. The deferred gains will be recognized over the next four years as shown on Line 7 of Chart 7, along with any futures gains or losses that will occur if the System does not earn the assumed rate of investment return of 7.25% per year (net of expenses) on a market value basis.

The deferred gains of $97 million represent about 1% of the market value of assets. The potential impact associated with the deferred investment gains may be illustrated as follows:

- If the deferred gains were recognized immediately in the valuation value of assets, the funded ratio would increase from 62.5% to 63.2%.
- If the deferred gains were recognized immediately in the valuation value of assets, the aggregate employer rate would decrease from 41.64% to about 41.1% of payroll (before the two-year phase-in).

Ref: Pg. 34

- In 2013, the California Actuarial Advisory Panel (CAAP) adopted a set of model disclosure elements recommended for actuarial valuation reports for public retirement systems in California. Information has been added to this valuation report consistent with the recommendations regarding basic disclosure elements. In particular, we are now including new information regarding measures of plan volatility.
- The Governmental Accounting Standards Board (GASB) recently approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. It is important to note that the new GASB rules only redefine pension expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices. While the new Statements are applicable for preparing the 2014 calendar year financial statement for the Plan's reporting and for the 2014/2015 fiscal year financial statements for the employer's reporting, the actual preparation of schedules in compliance with those Statements will depend upon GASB's issuance of detailed implementation guides for the Plan and the employer, anticipated around June 2013 and January 2014, respectively. As a result, we have continued to use Statements 25 and 27 in preparing the financial reporting information in this report.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- difference between actual experience and anticipated experience;
- changes in actuarial assumptions or methods;
- changes in statutory provisions; and
- difference between the contribution rates determined by the valuation and those adopted by the Board.

Summary of Key Valuation Results (Dollar amounts in thousands)

	December 31, 2012 (Before Phase-in)		December 31, 2011	
Aggregate Employer Contribution Rates[1]:				
General	Total Rate	Estimated Annual Amount[2]	Total Rate[3]	Estimated Annual Amount[2]
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	22.59%	$14,317	18.94%	$12,004
Rate Group #2 – Plans I, J, O, P, S, T and U	39.42	386,680	32.91	322,771
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	38.34	24,814	31.86	20,622
Rate Group #5 – Plans A, B and U (OCTA)	28.31	28,503	23.65	23,811
Rate Group #9 – Plans M, N and U (TCA)	27.17	1,647	22.22	1,347
Rate Group #10 – Plans I, J, M, N and U (OCFA)	38.69	8,447	32.76	7,152
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	24.62	303	19.03	234
Safety				
Rate Group #6 – Plans E, F and V (Probation)	43.17%	$28,141	36.57%	$23,838
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	60.95	118,011	50.86	98,478
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	53.00	59,268	43.15	48,253
All Groups Combined	41.64%	$670,131	34.71%	$558,510
Average Member Contribution Rates:				
General	Total Rate	Estimated Annual Amount[2]	Total Rate[4]	Estimated Annual Amount[2]
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	8.93%	$5,660	7.91%	$5,013
Rate Group #2 – Plans I, J, O, P, S, T and U	12.64	124,004	11.28	110,662
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	12.65	8,188	11.35	7,346
Rate Group #5 – Plans A, B and U (OCTA)	9.72	9,786	8.71	8,769
Rate Group #9 – Plans M, N and U (TCA)	10.83	657	9.83	596
Rate Group #10 – Plans I, J, M, N and U (OCFA)	12.66	2,764	11.33	2,474
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	9.41	116	8.28	102
Safety				
Rate Group #6 – Plans E, F and V (Probation)	14.77%	$9,628	13.11%	$8,546
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	15.63	30,264	13.77	26,663
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	14.44	16,148	12.99	14,526
All Groups Combined	12.87%	$207,215	11.47%	$184,697

Note: The above average rates are calculated without the CalPEPRA plans as there are no members enrolled in those plans as of December 31, 2012.

(1) *Before reflecting 2-year phase-in of the contribution rate impact from the change in economic assumptions in the December 31, 2012 valuation.*

(2) *Based on December 31, 2012 projected annual compensation.*

(3) *For those Rate Groups with tier specific contribution rates, the total rates shown above have been recalculated by applying the tier specific contribution rates determined in the December 31, 2011 valuation to the corresponding projected payrolls reported as of December 31, 2012.*

(4) *Average rates have been recalculated by applying the individual entry age based rates determined in the December 31, 2011 valuation to the System membership as of December 31, 2012.*

Summary of Key Valuation Results (Dollar amounts in thousands)

	December 31, 2012 (After Phase-in)		December 31, 2011	
Aggregate Employer Contribution Rates[1]:		Estimated		Estimated
General	Total Rate	Annual Amount[2]	Total Rate[3]	Annual Amount[2]
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	21.04%	$13,335	18.94%	$12,004
Rate Group #2 – Plans I, J, O, P, S, T and U	37.34	366,253	32.91	322,771
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	36.44	23,586	31.86	20,622
Rate Group #5 – Plans A, B and U (OCTA)	26.62	26,802	23.65	23,811
Rate Group #9 – Plans M, N and U (TCA)	25.71	1,559	22.22	1,347
Rate Group #10 – Plans I, J, M, N and U (OCFA)	36.72	8,017	32.76	7,152
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	22.99	283	19.03	234
Safety				
Rate Group #6 – Plans E, F and V (Probation)	40.52%	$26,414	36.57%	$23,838
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	57.28	110,908	50.86	98,478
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	49.83	55,723	43.15	48,253
All Groups Combined	39.32%	$632,880	34.71%	$558,510
Average Member Contribution Rates:		Estimated		Estimated
General	Total Rate	Annual Amount[2]	Total Rate[4]	Annual Amount[2]
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	8.93%	$5,660	7.91%	$5,013
Rate Group #2 – Plans I, J, O, P, S, T and U	12.64	124,004	11.28	110,662
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	12.65	8,188	11.35	7,346
Rate Group #5 – Plans A, B and U (OCTA)	9.72	9,786	8.71	8,769
Rate Group #9 – Plans M, N and U (TCA)	10.83	657	9.83	596
Rate Group #10 – Plans I, J, M, N and U (OCFA)	12.66	2,764	11.33	2,474
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	9.41	116	8.28	102
Safety				
Rate Group #6 – Plans E, F and V (Probation)	14.77%	$9,628	13.11%	$8,546
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	15.63	30,264	13.77	26,663
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	14.44	16,148	12.99	14,526
All Groups Combined	12.87%	$207,215	11.47%	$184,697

Note: The above average rates are calculated without the CalPEPRA plans as there are no members enrolled in those plans as of December 31, 2012.

(1) *Before reflecting 2-year phase-in of the contribution rate impact from the change in economic assumptions in the December 31, 2012 valuation.*

(2) *Based on December 31, 2012 projected annual compensation.*

(3) *For those Rate Groups with tier specific contribution rates, the total rates shown above have been recalculated by applying the tier specific contribution rates determined in the December 31, 2011 valuation to the corresponding projected payrolls reported as of December 31, 2012.*

(4) *Average rates have been recalculated by applying the individual entry age based rates determined in the December 31, 2011 valuation to the System membership as of December 31, 2012.*

Summary of Key Valuation Results – continued (Dollar amounts in thousands)

	December 31, 2012	December 31, 2011
Funded Status:		
Actuarial accrued liability (AAL)	$15,144,888	$13,522,978
Valuation value of assets (VVA)(1)	9,469,208	9,064,355
Market value of assets (MVA)(1)	9,566,659	8,465,368
Funded percentage on a VVA basis	62.52%	67.03%
Funded percentage on a MVA basis	63.17%	62.60%
Unfunded Actuarial Accrued Liability on a VVA basis	$5,675,680	$4,458,623
Unfunded Actuarial Accrued Liability on a MVA basis	5,578,229	5,057,610
Key Assumptions:		
Interest rate	7.25%	7.75%
Inflation rate	3.25%	3.50%
Across-the-board real salary increase	0.50%	0.25%

(1) *Excludes County Investment Account (funded by pension obligation bond proceeds held by OCERS), prepaid employer contributions account and non-valuation reserves.*

Summary of Key Valuation Demographic and Financial Data

	December 31, 2012	December 31, 2011	Percentage Change
Active Members:			
Number of members	21,256	21,421	-0.8%
Average age	45.5	45.4	N/A
Average service	13.1	13.0	N/A
Projected total compensation	$1,609,600,860	$1,619,474,479	-0.6%
Average projected compensation	$75,725	$75,602	0.2%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	10,739	10,189	5.4%
Disability retired	1,319	1,291	2.2%
Beneficiaries	1,889	1,809	4.4%
Total	13,947	13,289	5.0%
Average age	69.0	69.0	N/A
Average monthly benefit(1)	$3,247	$3,099	4.8%
Vested Terminated Members:			
Number of vested terminated members(2)	4,415	4,406	0.2%
Average age	44.2	43.9	N/A
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets(3)	$9,566,874	$8,465,593	13.0%
Return on market value of assets	11.92%	0.04%	N/A
Actuarial value of assets(3)	$9,469,423	$9,064,580	4.5%
Return on actuarial value of assets	3.49%	3.28%	N/A
Valuation value of assets(3)	$9,469,208	$9,064,355	4.5%
Return on valuation value of assets	3.49%	3.29%	N/A

(1) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

(2) *This includes members who chose to leave their contributions on deposit even though they have less than five years of service.*

(3) *The market value excludes $103,261,000 and $97,767,000 as of December 31, 2012 and December 31, 2011, respectively, in the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and $177,632,000 and $162,873,000 as of December 31, 2012 and December 31, 2011, respectively, in the prepaid employer contributions account.*

Note that the above market values and actuarial values include the non-valuation reserves, which are excluded from the valuation values.

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2003 – 2012

Year Ended December 31	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2003	22,672	2,278	9,079	0.50
2004	22,502	1,910	9,433	0.50
2005	22,467	2,466	10,218	0.56
2006	22,791	3,195	10,915	0.62
2007	23,618	3,646	11,421	0.64
2008	23,720	3,881	11,778	0.66
2009	22,633	4,094	12,243	0.72
2010	21,742	4,308	12,762	0.79
2011	21,421	4,406	13,289	0.83
2012	21,256	4,415	13,947	0.86

**Includes terminated members due a refund of member contributions.*

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 21,256 active members with an average age of 45.5, average years of service of 13.1 years, and average compensation of $75,725. The 21,421 active members in the prior valuation had an average age of 45.4, average service of 13.0 years, and average compensation of $75,602.

Inactive Members

In this year's valuation, there were 4,415 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,406 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of December 31, 2012

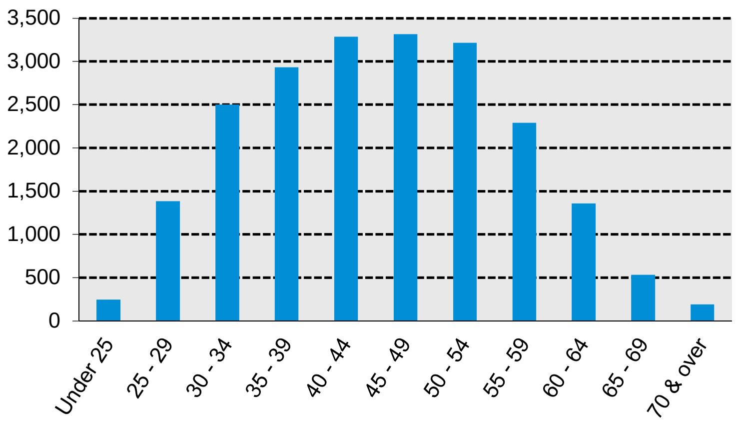
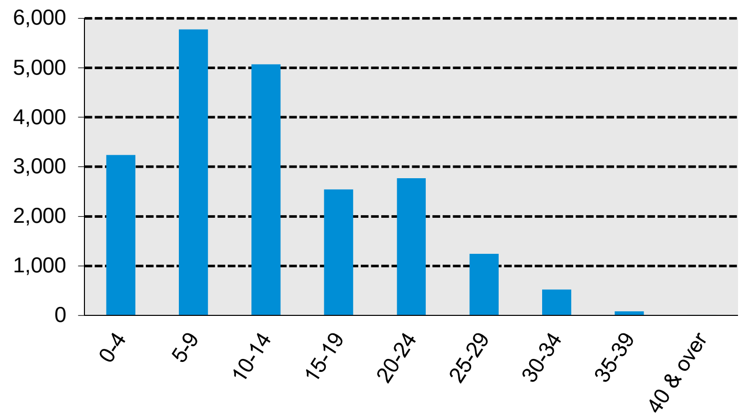


CHART 3

Distribution of Active Members by Years of Service as of December 31, 2012



Retired Members and Beneficiaries

As of December 31, 2012, 12,058 retired members and 1,889 beneficiaries were receiving total monthly benefits of $45,292,112. For comparison, in the previous valuation, there were 11,480 retired members and 1,809 beneficiaries receiving total monthly benefits of $41,183,112. These monthly benefits exclude benefits payable from the Retired Member Benefit Reserve (RMBR) and Supplemental Targeted Adjustment for Retirees Cost of Living Adjustment (STAR COLA).

These graphs show a distribution of the current retired members based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Monthly Amount as of December 31, 2012

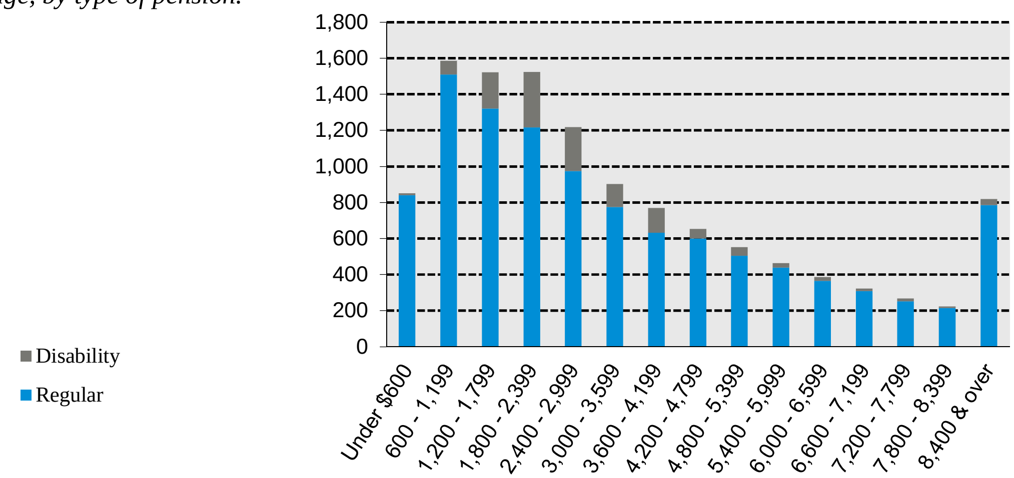
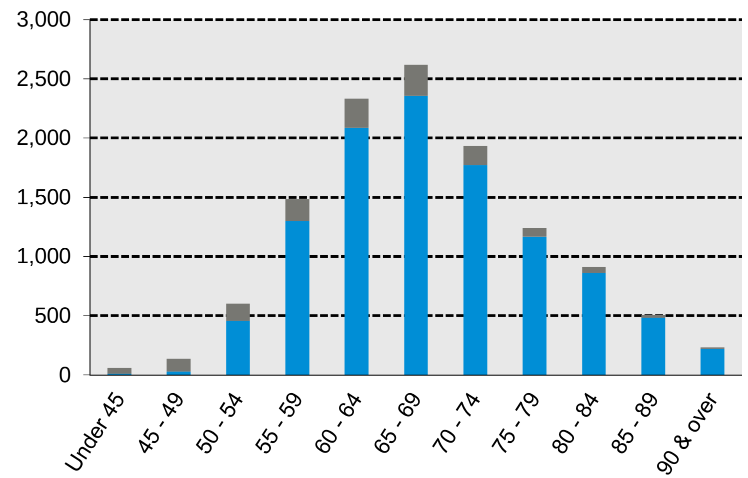


CHART 5

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of December 31, 2012



B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

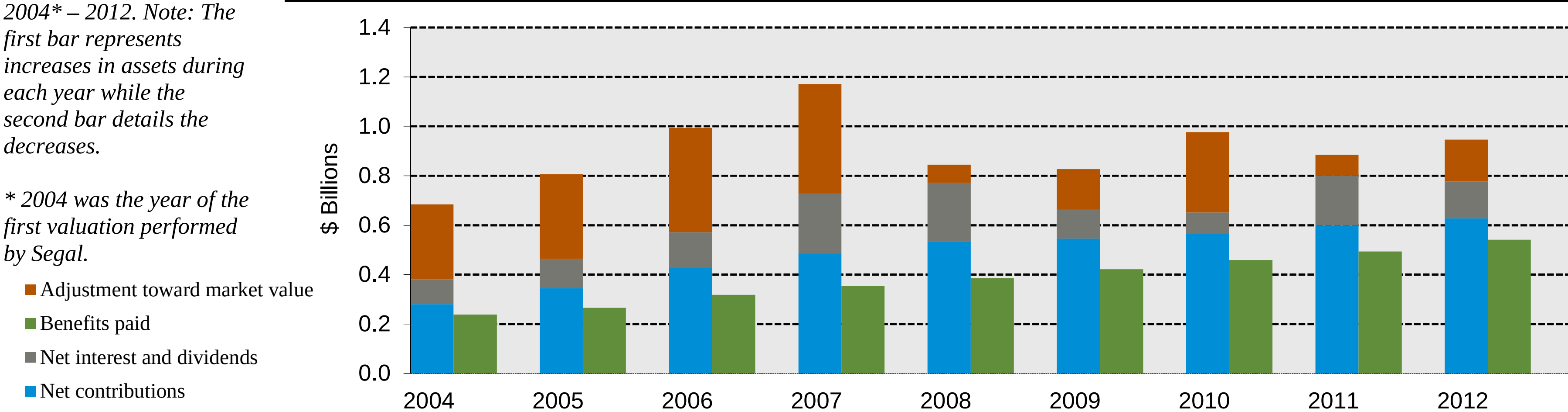
Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the "non-cash" earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

The chart depicts the components of changes in the actuarial value of assets over the years 2004 – 2012. Note: The first bar represents increases in assets during each year while the second bar details the decreases.*

** 2004 was the year of the first valuation performed by Segal.*

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2004 – 2012



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets does not have an immediate effect on the actuarial value of assets. The determination of the Actuarial Value of Assets and Valuation Value of Assets is provided below.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended December 31, 2012

Plan Year Ending	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain / (Loss)	Deferred Factor	Deferred Return
2008	$(1,617,791,000)	$603,959,000	$(2,221,750,000)	0.0	$0
2009	1,092,660,000	489,051,000	603,609,000	0.2	120,722,000
2010	787,215,000	582,621,000	204,594,000	0.4	81,838,000
2011	3,236,000	651,782,000	(648,546,000)	0.6	(389,128,000)
2012	1,014,471,000	659,447,000	355,024,000	0.8	284,019,000

1.	Total Deferred Return	$97,451,000
2.	Net Market Value Of Assets (Excludes $103,261,000 in County Investment Account (funded by pension obligation bond proceeds held by OCERS) and $177,632,000 in Prepaid Employer Contributions)	$9,566,874,000[1]
3.	Actuarial Value of Assets (2) – (1)	$9,469,423,000
4.	Ratio of Actuarial Value To Market Value (3) / (2)	99%
5.	Non-valuation Reserves	
	(a) Unclaimed member deposit	$123,000
	(b) Medicare medical insurance reserve	92,000
	(c) Retired member benefit reserve (RMBR)	0
	(d) Subtotal	$215,000
6.	Valuation value of assets (3) – (5)(d)	$9,469,208,000
7.	Deferred Return Recognized in Each of the Next 4 years	
	(a) Amount recognized on 12/31/2013	$102,936,417
	(b) Amount recognized on 12/31/2014	(17,785,583)
	(c) Amount recognized on 12/31/2015	(58,704,583)
	(d) Amount recognized on 12/31/2016	71,004,750
	(e) Subtotal (may not total exactly due to rounding)	$97,451,000

[1] Based on the preliminary unaudited financial statement provided by OCERS for this valuation.

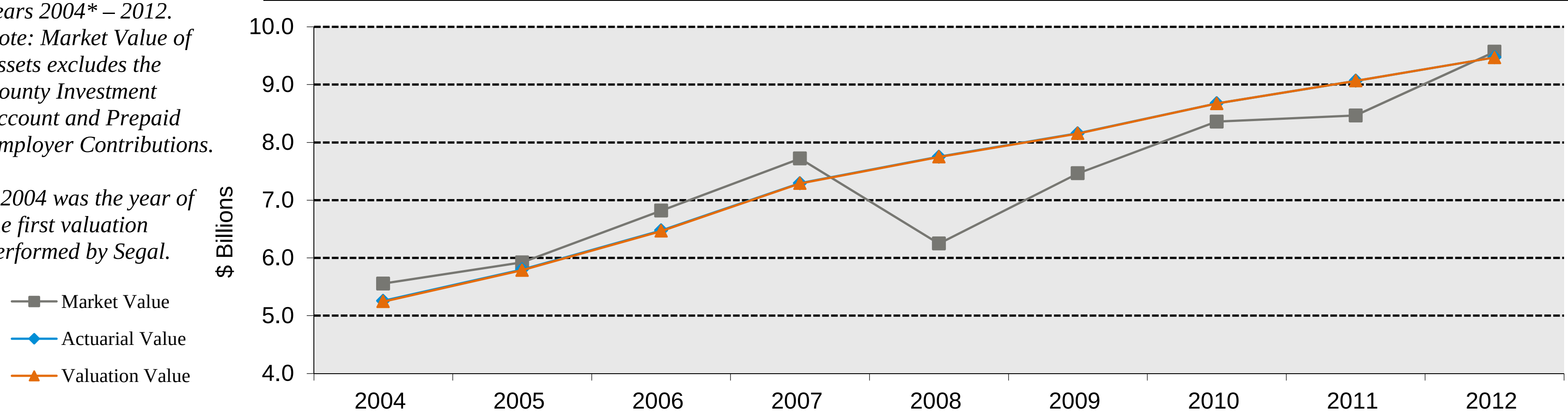
The market value, actuarial value, and valuation value of assets are representations of OCERS' financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation value of assets is significant because OCERS' liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in market value, actuarial value and valuation value over the years 2004 – 2012. Note: Market Value of Assets excludes the County Investment Account and Prepaid Employer Contributions.*

** 2004 was the year of the first valuation performed by Segal.*

CHART 8

Market Value, Actuarial Value and Valuation Value of Assets as of December 31, 2004 – 2012



C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total experience loss was $163.0 million, a loss of $387.8 million from investments and a gain of $224.8 million from all other sources. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9

Actuarial Experience for Year Ended December 31, 2012 (Dollar Amounts in Thousands)

1.	Net loss from investments[1]	$(387,808)
2.	Net gain from other experience[2]	224,771
3.	Net experience gain/(loss): (1) + (2)	$(163,037)

(1) *Details in Chart 10.*

(2) *See Section 3, Exhibit H.*

Investment Rate of Return
A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on OCERS' investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.75% (based on the December 31, 2011 valuation). The actual rate of return on a valuation basis for the 2012 plan year was 3.49%.

Since the actual return for the year was less than the assumed return, OCERS experienced an actuarial loss during the year ended December 31, 2012 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Investment Experience for Year Ended December 31, 2012 – Valuation Value and Actuarial Value of Assets

	Valuation Value	Actuarial Value
1. Actual return	$318,043,000	$318,033,000
2. Average value of assets	$9,107,760,000	$9,107,985,000
3. Actual rate of return: (1) ÷ (2)	3.49%	3.49%
4. Assumed rate of return	7.75%	7.75%
5. Expected return: (2) x (4)	$705,851,000	$705,869,000
6. Actuarial gain/(loss): (1) – (5)	$(387,808,000)	$(387,836,000)

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial, valuation, and market basis for the last nine years.

CHART 11

Investment Return – Actuarial Value, Valuation Value and Market Value: (Dollar Amounts in Thousands)

Year Ended December 31	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2004[1]	$411,453	8.55%	$403,652	8.35%	$544,457	11.26%
2005	449,620	8.50%	461,972	8.72%	441,178	8.11%
2006	565,491	9.68%	568,254	9.71%	787,330	13.17%
2007	683,212	10.45%	685,780	10.49%	769,613	11.18%
2008	312,821	4.25%	311,887	4.23%	(1,617,791)	-20.76%
2009	282,764	3.62%	281,360	3.60%	1,092,660	17.32%
2010	412,046	5.02%	411,960	5.02%	787,215	10.47%
2011	287,241	3.29%	286,585	3.28%	3,236	0.04%
2012	318,043	3.49%	318,033	3.49%	1,014,471	11.92%
9-Year Average Return		6.28%		6.28%		6.35%

[1] *2004 was the year of the first valuation performed by Segal.*

Note: The dollar amount of return on market value is net of the return on the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and prepaid employer contributions account. Furthermore, due to differences in how returns are calculated, these market value rates of return will generally differ somewhat from the return reported by OCERS and its investment consultant. For example, the return for 2012 reported by OCERS is 12.2%.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2004 – 2012.*

** 2004 was the year of the first valuation performed by Segal.*

CHART 12

Market, Actuarial, and Valuation Value Rates of Return for Years Ended December 31, 2004 – 2012

Other Experience
There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- actual turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the year ended December 31, 2012 amounted to $224.8 million which is 1.48% of the actuarial accrued liability. See Exhibit H in Section 3 for a detailed development of the Unfunded Actuarial Accrued Liability.

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.

For Probation Safety members who have prior benefit service in the General OCERS plan, the normal cost rate for their current plan is calculated based on the entry date for their current plan.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative unfunded actuarial accrued liability) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.75% (i.e., 3.25% inflation plus 0.50% across-the-board salary increase). The outstanding balance of the December 31, 2004 UAAL is being amortized over a declining 22-year period[1]. Any new UAAL that arises in future years due to actuarial gains or losses will be amortized over separate 15-year periods. Any new UAAL resulting from changes in actuarial assumptions is amortized over separate 30-year periods.

The recommended employer contributions are provided in Chart 13.

[1] *We have also used 22 years to amortize the outstanding balance of the UAAL established in the December 31, 2009 valuation as a result of including additional premium pay items as pensionable salary and the new UAAL established in the December 31, 2010 valuation as a result of reallocating contributions and benefit payments among Rate Groups.*

Member Contributions

Non-CalPEPRA Members

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General members and Safety members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to:

- 1/200 of Final Average Salary for General Plan A;
- 1/120 of Final Average Salary for General Plan B;
- 1/100 of Final Average Salary for General Plans G, H, I, J, and S;
- 1/120 of Final Average Salary for General Plans M, N, O, and P;
- 1/200 of Final Average Salary for Safety Plan E and Q, and;
- 1/100 of Final Average Salary for Safety Plan F and R.

The annuity age is 60 for General Plans A, B, M, N, O, P and S, 55 for Plans G, H, I, and J, and 50 for Safety Plans E, F, Q, and R. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to the basic contributions, members pay one-half of the total normal cost necessary to fund cost-of-living benefits. Accumulation includes crediting of interest at the assumed investment earnings rate.

Consistent with the practice since the Ventura Settlement, for determining the cost of basic benefit (i.e., non-COLA component), the effect of the assumed annual payoffs are currently recognized in the valuation only as an employer cost and do not affect member contribution rates. The assumed annual payoffs are only used in establishing cost-of-living member contributions.

CalPEPRA Members

Pursuant to Section 7522.30(a) of the Government Code, CalPEPRA members in Plans T, U and V are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the employee rates be rounded to the nearest one quarter of one percent and requiring the new employees to pay the contribution rate of “similarly situated employees”, if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). We have also compared the total Normal Cost rates between the current and the prior valuations so that a rate increase of less than 1% of payroll would result in no change to the member’s rate (reference: Section 7522.30(d)).

Note that for members in Plan T, their basic rates have been calculated using a methodology similar to that used for Plan P. For members in Plan U or Plan V, their basic rates have been calculated using a methodology outlined in our letter dated December 4, 2012 that was previously approved by the Board.

Member contribution rates are provided in Appendix B.

CHART 13

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #1 – Plans A and B (2.0% @ 57 and 1.6667% @ 57.5 – non-OCTA, non-OCSD)				
Normal Cost	9.68%	$6,135	8.55%	$5,419
UAAL[2]	12.91%	8,182	10.39%	6,585
Total Contribution	22.59%	$14,317	18.94%	$12,004
Total Contribution After 2-Year Phase-In	21.04%	$13,335	N/A	N/A
Rate Group #1 – Plan U (2.5% @ 67 PEPRA) [3]				
Normal Cost	8.68%	N/A	8.06%	N/A
UAAL[2]	12.91%	N/A	10.39%	N/A
Total Contribution	21.59%	N/A	18.45%	N/A
Total Contribution After 2-Year Phase-In	20.33%	N/A	N/A	N/A
Rate Group #1 – Plans A, B and U Combined				
Normal Cost	9.68%	$6,135	8.55%	$5,419
UAAL[2]	12.91%	8,182	10.39%	6,585
Total Contribution	22.59%	$14,317	18.94%	$12,004
Total Contribution After 2-Year Phase-In	21.04%	$13,335	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #2 – Plans I and J (2.7% @ 55 – non-OCFA)				
Normal Cost	13.69%	$132,200	12.03%	$116,170
UAAL[2]	25.85%	249,625	20.98%	202,597
Total Contribution	39.54%	$381,825	33.01%	$318,767
Total Contribution After 2-Year Phase-In	37.45%	$361,642	N/A	N/A
Rate Group #2 – Plans O and P (1.62% @ 65)				
Normal Cost	5.56%	$835	4.91%	$737
UAAL[2]	25.85%	3,881	20.98%	3,150
Total Contribution	31.41%	$4,716	25.89%	$3,887
Total Contribution After 2-Year Phase-In	29.84%	$4,480	N/A	N/A
Rate Group #2 – Plan S (2.0% @ 57)				
Normal Cost	12.10%	$44	10.99%	$40
UAAL[2]	25.85%	$95	20.98%	$77
Total Contribution	37.95%	$139	31.97%	$117
Total Contribution After 2-Year Phase-In	35.96%	$131	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
Note: For employers with future service only benefit improvements under 2.7% @ 55, refer to the employer rate adjustment on page 27.

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #2 – Plan T (1.62% @ 65 PEPRA) [3]				
Normal Cost	6.78%	N/A	6.20%	N/A
UAAL[2]	25.85%	N/A	20.98%	N/A
Total Contribution	32.63%	N/A	27.18%	N/A
Total Contribution After 2-Year Phase-In	31.10%	N/A	N/A	N/A
Rate Group #2 – Plan U (2.5% @ 67 PEPRA) [4]				
Normal Cost	7.44%	N/A	8.26%	N/A
UAAL[2]	25.85%	N/A	20.98%	N/A
Total Contribution	33.29%	N/A	29.24%	N/A
Total Contribution After 2-Year Phase-In	32.05%	N/A	N/A	N/A
Rate Group #2 – Plans I, J, O, P, S, T and U Combined				
Normal Cost	13.57%	$133,079	11.93%	$116,947
UAAL[2]	25.85%	253,601	20.98%	205,824
Total Contribution	39.42%	$386,680	32.91%	$322,771
Total Contribution After 2-Year Phase-In	37.34%	$366,253	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013 except for County Attorneys, San Juan Capistrano employees and OCERS management employees.*
(4) *Applicable for County Attorneys, San Juan Capistrano employees and OCERS management employees hired on or after January 1, 2013.*
Note: For employers with future service only benefit improvements under 2.7% @ 55, refer to the employer rate adjustment on page 27.

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #3 – Plans G and H (2.5% @ 55)				
Normal Cost	12.88%	$7,703	11.29%	$6,752
UAAL[2]	25.60%	15,311	20.66%	12,357
Total Contribution	38.48%	$23,014	31.95%	$19,109
Total Contribution After 2-Year Phase-In	36.57%	$21,872	N/A	N/A
Rate Group #3 – Plan B (1.64% @ 57 – OCSD)				
Normal Cost	11.02%	$542	10.11%	$497
UAAL[2]	25.60%	1,258	20.66%	1,016
Total Contribution	36.62%	$1,800	30.77%	$1,513
Total Contribution After 2-Year Phase-In	34.87%	$1,714	N/A	N/A
Rate Group #3 – Plan U (2.5% @ 67 PEPRA) [3]				
Normal Cost	9.38%	N/A	8.70%	N/A
UAAL[2]	25.60%	N/A	20.66%	N/A
Total Contribution	34.98%	N/A	29.36%	N/A
Total Contribution After 2-Year Phase-In	33.52%	N/A	N/A	N/A
Rate Group #3 – Plans B, G, H and U Combined				
Normal Cost	12.74%	$8,245	11.20%	$7,249
UAAL[2]	25.60%	16,569	20.66%	13,373
Total Contribution	38.34%	$24,814	31.86%	$20,622
Total Contribution After 2-Year Phase-In	36.44%	$23,586	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*
Note: For employers with future service only benefit improvements under 2.5% @ 55, refer to the employer rate adjustment on page 27.

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #5 – Plans A and B (2.0% @ 57 and 1.6667% @ 57.5 – OCTA)				
Normal Cost	11.83%	$11,911	10.57%	$10,642
UAAL[2]	16.48%	16,592	13.08%	13,169
Total Contribution	28.31%	$28,503	23.65%	$23,811
Total Contribution After 2-Year Phase-In	26.62%	$26,802	N/A	N/A
Rate Group #5 – Plan U (2.5% @ 67 PEPRA) [3]				
Normal Cost	10.69%	N/A	9.89%	N/A
UAAL[2]	16.48%	N/A	13.08%	N/A
Total Contribution	27.17%	N/A	22.97%	N/A
Total Contribution After 2-Year Phase-In	25.72%	N/A	N/A	N/A
Rate Group #5 – Plans A, B and U Combined				
Normal Cost	11.83%	$11,911	10.57%	$10,642
UAAL[2]	16.48%	16,592	13.08%	13,169
Total Contribution	28.31%	$28,503	23.65%	$23,811
Total Contribution After 2-Year Phase-In	26.62%	$26,802	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount (1)	Rate	Estimated Annual Amount (1)
Rate Group #9 – Plans M and N (2.0% @ 55 – TCA)				
Normal Cost	14.20%	$861	13.11%	$795
UAAL(2)	12.97%	786	9.11%	552
Total Contribution	27.17%	$1,647	22.22%	$1,347
Total Contribution After 2-Year Phase-In	25.71%	$1,559	N/A	N/A
Rate Group #9 – Plan U (2.5% @ 67 PEPRA) (3)				
Normal Cost	10.97%	N/A	10.36%	N/A
UAAL(2)	12.97%	N/A	9.11%	N/A
Total Contribution	23.94%	N/A	19.47%	N/A
Total Contribution After 2-Year Phase-In	22.87%	N/A	N/A	N/A
Rate Group #9 – Plans M, N and U Combined				
Normal Cost	14.20%	$861	13.11%	$795
UAAL(2)	12.97%	786	9.11%	552
Total Contribution	27.17%	$1,647	22.22%	$1,347
Total Contribution After 2-Year Phase-In	25.71%	$1,559	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #10 – Plans I and J (2.7% @ 55 – OCFA)				
Normal Cost	13.92%	$2,832	12.18%	$2,478
UAAL[2]	24.76%	5,037	20.43%	4,156
Total Contribution	38.68%	$7,869	32.61%	$6,634
Total Contribution After 2-Year Phase-In	36.70%	$7,466	N/A	N/A
Rate Group #10 – Plans M and N (2.0% @ 55 – OCFA)				
Normal Cost	14.01%	$209	14.35%	$214
UAAL[2]	24.76%	369	20.43%	304
Total Contribution	38.77%	$578	34.78%	$518
Total Contribution After 2-Year Phase-In	36.99%	$551	N/A	N/A
Rate Group #10 – Plan U (2.5% @ 67 PEPRA) [3]				
Normal Cost	8.50%	N/A	7.84%	N/A
UAAL[2]	24.76%	N/A	20.43%	N/A
Total Contribution	33.26%	N/A	28.27%	N/A
Total Contribution After 2-Year Phase-In	31.81%	N/A	N/A	N/A
Rate Group #10 – Plans I, J, M, N and U Combined				
Normal Cost	13.93%	$3,041	12.33%	$2,692
UAAL[2]	24.76%	5,406	20.43%	4,460
Total Contribution	38.69%	$8,447	32.76%	$7,152
Total Contribution After 2-Year Phase-In	36.72%	$8,017	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General Employers	December 31, 2012 Valuation Rate	December 31, 2012 Valuation Estimated Annual Amount [1]	December 31, 2011 Valuation Rate	December 31, 2011 Valuation Estimated Annual Amount [1]
Rate Group #11 – Plans M and N, future service (2.0% @ 55 – Cemetery)				
Normal Cost	12.34%	$152	10.80%	$133
UAAL[2]	12.28%	151	8.23%	101
Total Contribution	24.62%	$303	19.03%	$234
Total Contribution After 2-Year Phase-In	22.99%	$283	N/A	N/A
Rate Group #11 – Plan U (2.5% @ 67 PEPRA) [3]				
Normal Cost	8.66%	N/A	7.95%	N/A
UAAL[2]	12.28%	N/A	8.23%	N/A
Total Contribution	20.94%	N/A	16.18%	N/A
Total Contribution After 2-Year Phase-In	19.63%	N/A	N/A	N/A
Rate Group #11 – Plans M, N and U Combined				
Normal Cost	12.34%	$152	10.80%	$133
UAAL[2]	12.28%	151	8.23%	101
Total Contribution	24.62%	$303	19.03%	$234
Total Contribution After 2-Year Phase-In	22.99%	$283	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #6 – Plans E and F (3% @ 50 – Probation)				
Normal Cost	21.26%	$13,859	19.31%	$12,587
UAAL[2]	21.91%	14,282	17.26%	11,251
Total Contribution	43.17%	$28,141	36.57%	$23,838
Total Contribution After 2-Year Phase-In	40.52%	$26,414	N/A	N/A
Rate Group #6 – Plan V (2.7% @ 57 PEPRA) [3]				
Normal Cost	13.91%	N/A	12.23%	N/A
UAAL[2]	21.91%	N/A	17.26%	N/A
Total Contribution	35.82%	N/A	29.49%	N/A
Total Contribution After 2-Year Phase-In	33.40%	N/A	N/A	N/A
Rate Group #6 – Plans E, F and V Combined				
Normal Cost	21.26%	$13,859	19.31%	$12,587
UAAL[2]	21.91%	14,282	17.26%	11,251
Total Contribution	43.17%	$28,141	36.57%	$23,838
Total Contribution After 2-Year Phase-In	40.52%	$26,414	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #7 – Plans E and F (3% @ 50 – Law Enforcement)				
Normal Cost	24.24%	$43,000	21.48%	$38,104
UAAL[2]	36.71%	65,121	29.38%	52,118
Total Contribution	60.95%	$108,121	50.86%	$90,222
Total Contribution After 2-Year Phase-In	57.27%	$101,593	N/A	N/A
Rate Group #7 – Plans Q and R (3% @ 55 – Law Enforcement)				
Normal Cost	24.20%	$3,929	21.47%	$3,486
UAAL[2]	36.71%	5,961	29.38%	4,770
Total Contribution	60.91%	$9,890	50.85%	$8,256
Total Contribution After 2-Year Phase-In	57.37%	$9,315	N/A	N/A
Rate Group #7 – Plan V (2.7% @ 57 PEPRA) [3]				
Normal Cost	17.05%	N/A	15.55%	N/A
UAAL[2]	36.71%	N/A	29.38%	N/A
Total Contribution	53.76%	N/A	44.93%	N/A
Total Contribution After 2-Year Phase-In	50.61%	N/A	N/A	N/A
Rate Group #7 – Plans E, F, Q, R and V Combined				
Normal Cost	24.24%	$46,929	21.48%	$41,590
UAAL[2]	36.71%	71,082	29.38%	56,888
Total Contribution	60.95%	$118,011	50.86%	$98,478
Total Contribution After 2-Year Phase-In	57.28%	$110,908	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Group #8 – Plans E and F (3% @ 50 – Fire Authority)				
Normal Cost	26.16%	$29,254	23.49%	$26,268
UAAL[2]	26.84%	30,014	19.66%	21,985
Total Contribution	53.00%	$59,268	43.15%	$48,253
Total Contribution After 2-Year Phase-In	49.83%	$55,723	N/A	N/A
Rate Group #8 – Plans Q and R (3% @ 55 – Fire Authority)				
Normal Cost	21.12%	N/A	18.58%	N/A
UAAL[2]	26.84%	N/A	19.66%	N/A
Total Contribution	47.96%	N/A	38.24%	N/A
Total Contribution After 2-Year Phase-In	44.85%	N/A	N/A	N/A
Rate Group #8 – Plan V (2.7% @ 57 PEPRA) [3]				
Normal Cost	16.41%	N/A	15.23%	N/A
UAAL[2]	26.84%	N/A	19.66%	N/A
Total Contribution	43.25%	N/A	34.89%	N/A
Total Contribution After 2-Year Phase-In	40.96%	N/A	N/A	N/A
Rate Group #8 – Plans E, F, Q, R and V Combined				
Normal Cost	26.16%	$29,254	23.49%	$26,268
UAAL[2]	26.84%	30,014	19.66%	21,985
Total Contribution	53.00%	$59,268	43.15%	$48,253
Total Contribution After 2-Year Phase-In	49.83%	$55,723	N/A	N/A

(1) *See page 26 for projected annual compensation.*
(2) *UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.*
(3) *Applicable for members hired on or after January 1, 2013.*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

General and Safety Combined	December 31, 2012 Valuation		December 31, 2011 Valuation	
	Rate	Estimated Annual Amount [1]	Rate	Estimated Annual Amount [1]
Rate Groups #1 – #11				
Total Contribution	41.64%	$670,131	34.71%	$558,510
Total Contribution After 2-Year Phase-In	39.32%	$632,880	N/A	N/A

[1] *Based on December 31, 2012 projected annual compensation (also in thousands):*

Rate Group #1 – Plans A and B	*$63,379*
Rate Group #1 – Plan U	*0*
Rate Group #2 – Plans I and J	*965,666*
Rate Group #2 – Plans O and P	*15,014*
Rate Group #2 – Plan S	*366*
Rate Group #2 – Plan T	*0*
Rate Group #2 – Plan U	*0*
Rate Group #3 – Plans G and H	*59,809*
Rate Group #3 – Plan B	*4,916*
Rate Group #3 – Plan U	*0*
Rate Group #5 – Plans A and B	*100,681*
Rate Group #5 – Plan U	*0*
Rate Group #9 – Plans M and N	*6,063*
Rate Group #9 – Plan U	*0*
Rate Group #10 – Plans I and J	*20,342*
Rate Group #10 – Plans M and N	*1,490*
Rate Group #10 – Plan U	*0*
Rate Group #11 – Plans M and N	*1,232*
Rate Group #11 – Plan U	*0*
Rate Group #6 – Plans E and F	*65,186*
Rate Group #6 – Plan V	*0*
Rate Group #7 – Plans E and F	*177,393*
Rate Group #7 – Plans Q and R	*16,237*
Rate Group #7 – Plan V	*0*
Rate Group #8 – Plans E and F	*111,826*
Rate Group #8 – Plans Q and R	*0*
Rate Group #8 – Plan V	*0*
Total	*$1,609,600*

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2012 (Dollar Amounts in Thousands)

December 31, 2012 Rate Adjustment for General Employers with 2.7% @ 55 – Rate Group #2 Future Service Only Benefit Improvement (Plans I and J)

Reduction to UAAL Rate Calculated in December 31, 2012 Valuation	Rate	Estimated Annual Amount[1]
Reduction to Total Contribution	-2.04%	-$103

[1] *Based on December 31, 2012 projected annual compensation (also in thousands):*

Retirement System	*$3,322*
Local Agency Formation Commission	*269*
Children & Family Commission	*1,461*
Total	*$5,052*

December 31, 2012 Rate Adjustment for General Employers with 2.5% @ 55 – Rate Group #3 Future Service Only Benefit Improvement (Plans G and H)

Reduction to UAAL Rate Calculated in December 31, 2012 Valuation	Rate	Estimated Annual Amount[2]
Reduction to Total Contribution	-3.69%	-$45

[2] *Based on December 31, 2012 projected annual compensation (also in thousands):*

Law Library	*$1,226*

CHART 14

"Pick – Up" - Discount Percentages

For every dollar of member contribution "picked up" by the employer and not deposited in the member's contribution account, the employer can contribute less than a dollar. This is because the "pick-up" amount is not deposited in the member's contribution account and so is not payable to a member who withdraws his or her contributions following termination of employment, and is not payable as an additional death benefit. The contribution discount percentages are as follows:

	December 31, 2012 Valuation Pick-Up Percentage		December 31, 2011 Valuation Pick-Up Percentage	
General Members				
Rate Group #1 Plan A/B (non-OCTA, non-OCSD)	Plan A: 97.85%	Plan B: 93.15%	Plan A: 97.87%	Plan B: 93.53%
Rate Group #1 Plan U (non-OCTA, non-OCSD)		Plan U: 90.72%		Plan U: 91.01%
Rate Group #2 (2.7% @ 55 – non-OCFA)	Plan I: 97.36%	Plan J: 94.29%	Plan I: 97.29%	Plan J: 94.44%
Rate Group #2 (1.62% @ 65)	Plan O: Not calculated	Plan P: 92.25%	Plan O: Not calculated	Plan P: 92.26%
Rate Group #2 (2.0% @ 57)		Plan S: 92.05%		Plan S: 91.25%
Rate Group #2 (1.62% @ 65 PEPRA)		Plan T: 91.68%		Plan T: 91.92%
Rate Group #2 (2.5% @ 67 PEPRA)		Plan U: 91.01%		Plan U: 91.66%
Rate Group #3 (2.5% @ 55)	Plan G: 96.74%	Plan H: 95.02%	Plan G: 96.89%	Plan H: 95.06%
Rate Group #3 (1.64% @ 57)		Plan B: 92.55%		Plan B: 92.60%
Rate Group #3 (2.5% @ 67 PEPRA)		Plan U: 92.03%		Plan U: 92.28%
Rate Group #5 Plan A/B (OCTA)	Plan A: 98.53%	Plan B: 94.59%	Plan A: 98.21%	Plan B: 94.75%
Rate Group #5 Plan U (OCTA)		Plan U: 91.11%		Plan U: 91.37%
Rate Group #9 (2.0% @ 55 – TCA)	Plan M: 95.00%	Plan N: 95.00%	Plan M: 95.32%	Plan N: 95.32%
Rate Group #9 (2.5% @ 67 PEPRA)		Plan U: 93.93%		Plan U: 94.15%
Rate Group #10 (2.7% @ 55 – OCFA)	Plan I: Not calculated*	Plan J: 94.79%	Plan I: 96.15%	Plan J: 94.79%
Rate Group #10 (2.0% @ 55 – OCFA)	Plan M: Not calculated	Plan N: 92.89%	Plan M: Not calculated	Plan N: 93.61%
Rate Group #10 (2.5% @ 67 PEPRA – OCFA)		Plan U: 92.93%		Plan U: 93.13%
Rate Group #11 (2.0% @ 55 – Cemetery)	Plan M: 94.43%	Plan N: 94.43%	Plan M: 94.29%	Plan N: 94.29%
Rate Group #11 (2.5% @ 67 PEPRA – Cemetery)		Plan U: 93.64%		Plan U: 93.85%

* There are no active members reported for this Tier in the December 31, 2012 valuation.

CHART 14 (Continued)

"Pick – Up" - Discount Percentages

	December 31, 2012 Valuation Pick-Up Percentage		December 31, 2011 Valuation Pick-Up Percentage	
Safety Members				
Rate Group #6 (3% @ 50 – Probation)	Plan E: 100.00%	Plan F: 95.70%	Plan E: 100.00%	Plan F: 95.75%
Rate Group #6 (2.7% @ 57 PEPRA – Probation)		Plan V: 94.26%		Plan V: 94.38%
Rate Group #7 (3% @ 50 – Law Enforcement)	Plan E: 100.00%	Plan F: 99.35%	Plan E: 100.00%	Plan F: 99.32%
Rate Group #7 (3% @ 55 – Law Enforcement)	Plan Q: Not calculated	Plan R: 98.60%	Plan Q: Not calculated	Plan R: 98.52%
Rate Group #7 (2.7% @ 57 PEPRA – Law Enforcement)		Plan V: 98.48%		Plan V: 98.50%
Rate Group #8 (3% @ 50 – Fire Authority)	Plan E: 100.00%	Plan F: 99.35%	Plan E: 100.00%	Plan F: 99.29%
Rate Group #8 (3% @ 55 – Fire Authority)	Plan Q: Not calculated	Plan R: 98.71%	Plan Q: Not calculated	Plan R: 98.72%
Rate Group #8 (2.7% @ 57 PEPRA – Fire Authority)		Plan V: 98.83%		Plan V: 98.84%

CHART 14 (Continued)

"Pick – Up" - Average Entry Age

The following table provides the average entry age by employer used in determining the "pick-up" contributions under Section 31581.1.

Employer	Code	Average Entry Age
General		
Orange County	101	33
Cemetery District	102	31
Law Library	103	42
Retirement System	105	35
Fire Authority	106	33
Department of Education	108	31
Transportation Corridor Agency	109	40
City of San Juan Capistrano	110	35
Sanitation District	111	35
OCTA	112	36
U.C.I. (Bi-weekly)	113	20
Children & Families Commission	118	32
Local Agency Formation Commission	119	32
Superior Court	121	33
IHSS Public Authority	122	40
Safety		
Probation	101	28
Law Enforcement	101	27
Fire Authority	106	30

The contribution rates as of December 31, 2012 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions or methods.

Reconciliation of Recommended Contribution
The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation, for the entire Retirement System. A reconciliation of the recommended contribution from the prior valuation to the current year's valuation by Rate Group is provided in Appendix D.

The chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.

CHART 15

Reconciliation of Recommended Employer Contribution Rate from December 31, 2011 to December 31, 2012 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount [1]
Aggregate Recommended Contribution Rate as of December 31, 2011	34.71%	$558,510
Effect of investment loss	2.15%	34,606
Effect of difference in actual versus expected salary increases	-1.36%	-21,891
Effect of growth in total payroll less than expected	0.86%	13,843
Effect of changes in economic assumptions	4.63%	74,502
Effect of other experience (gain)/loss[2]	0.65%	10,561
Subtotal	6.93%	$111,621
Aggregate Recommended Contribution Rate as of December 31, 2012[3]	41.64%	$670,131
Aggregate Recommended Contribution Rate after 2-Year Phase-In	39.32%	$632,880

(1) *Based on December 31, 2012 projected compensation of $1,609,600,000.*

(2) *Includes adjustment of 0.40% to reflect 18-month delay between date of valuation and date of rate implementation for the rate impact of all actuarial experience (excluding the change in economic assumptions).*

(3) *Before reflecting two-year phase-in of the effect of the changes in economic actuarial assumptions.*

The member contribution rates as of December 31, 2012 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, and changes in the actuarial assumptions or methods.

Reconciliation of Recommended Contribution Rate
The chart below details the changes in the aggregate recommended member contribution rate from the prior valuation to the current year's valuation.

The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.

CHART 16
Reconciliation of Average Recommended Member Contribution from December 31, 2011 to December 31, 2012 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount[1]
Average Recommended Contribution Rate as of December 31, 2011[2]	11.47%	$184,697
Effect of changes in actuarial assumptions	1.42%	22,856
Effect of change in demographics	-0.02%	-338
Average Recommended Contribution Rate as of December 31, 2012	12.87%	$207,215

(1) *Based on December 31, 2012 projected annual compensation of $1,609,600,000.*

(2) *Rates have been recalculated by applying the individual entry age based rates determined in the December 31, 2011 valuation to the System membership as of December 31, 2012.*

E. INFORMATION REQUIRED BY GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of the GASB required contributions to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with GASB funding requirements. Chart 17 below presents a graphical representation of this information for the Plan.

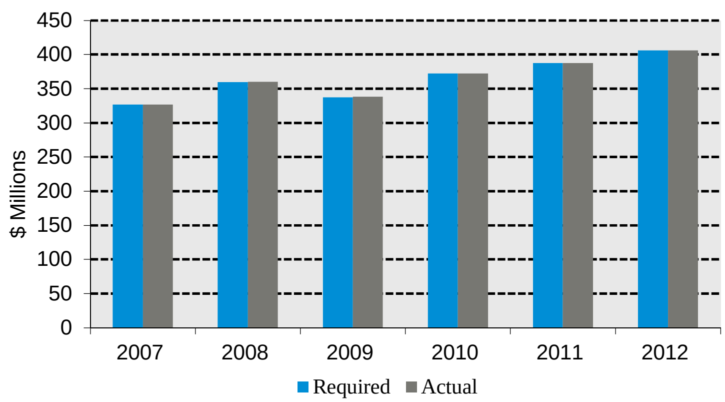
The other critical piece of information regarding the Plan's financial status is the funded ratio shown in Chart 18 below. This ratio compares the valuation value of assets to the actuarial accrued liabilities of the plan as calculated under the GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes. The 2012 funded ratio is 62.52%, compared to 67.03% in 2011.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB information.

CHART 17

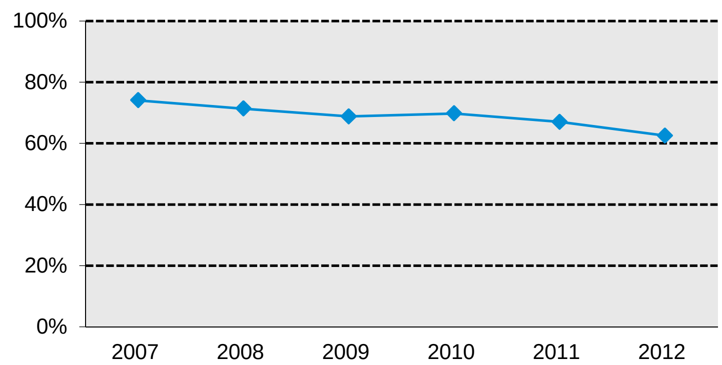
Required Versus Actual Contributions*



* *Actual contributions excludes transfers from County Investment Account. See page 68.*

CHART 18

Funded Ratio



F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For OCERS, the current AVR is about 5.9. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 5.9% of one-year's payroll. Since OCERS amortizes actuarial gains and losses over a 15-year period, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For OCERS, the current LVR is about 9.4. This is about 59% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 19

Volatility Ratios for Years Ended December 31, 2008 – 2012

Year Ended December 31	Asset Volatility Ratio	Liability Volatility Ratio
2008	4.0	6.9
2009	4.6	7.3
2010	5.3	7.9
2011	5.2	8.4
2012	5.9	9.4

EXHIBIT A

Table of Plan Coverage

i. Rate Group #1 – General – non-OCTA, non-OCSD – 2.0% at 57 and 1.6667% at 57.5

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	1,265	1,232	2.7%
Average age	44.2	44.4	N/A
Average service	11.2	11.5	N/A
Projected total compensation	$63,378,492	$61,277,590	3.4%
Projected average compensation	$50,102	$49,738	0.7%
Account balances	$36,064,708	$34,789,697	3.7%
Total active vested members	981	957	2.5%
Vested terminated members			
Number	290	290	0.0%
Average age	42.4	44.6	N/A
Retired members			
Number in pay status	569	559	1.8%
Average age	73.3	73.0	N/A
Average monthly benefit[1]	$2,444	$2,379	2.7%
Disabled members			
Number in pay status	34	33	3.0%
Average age	67.6	66.8	N/A
Average monthly benefit[1]	$2,247	$2,152	4.4%
Beneficiaries			
Number in pay status	74	80	-7.5%
Average age	74.1	73.0	N/A
Average monthly benefit[1]	$1,182	$1,181	0.1%

[1] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

ii. Rate Group #2 – General – 2.7% at 55, 1.62% at 65 and 2.0% at 57

	Year Ended December 31		
Category	**2012**	**2011**	**Change From Prior Year**
Active members in valuation			
Number	13,802	13,971	-1.2%
Average age	45.9	45.7	N/A
Average service	12.9	12.6	N/A
Projected total compensation	$981,046,774	$988,851,937	-0.8%
Projected average compensation	$71,080	$70,779	0.4%
Account balances	$1,345,480,313	$1,240,681,149	8.4%
Total active vested members	11,898	11,393	4.4%
Vested terminated members			
Number	2,995	2,993	0.1%
Average age	44.3	43.7	N/A
Retired members			
Number in pay status	7,587	7,267	4.4%
Average age	70.2	70.2	N/A
Average monthly benefit(1)	$3,165	$3,026	4.6%
Disabled members			
Number in pay status	563	563	0.0%
Average age	65.3	64.7	N/A
Average monthly benefit(1)	$2,268	$2,194	3.4%
Beneficiaries			
Number in pay status	1,284	1,242	3.4%
Average age	74.8	74.5	N/A
Average monthly benefit(1)	$1,530	$1,486	3.0%

(1) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

iii. Rate Group #3 – General – 2.5% at 55 and 1.64% at 57

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	612	616	-0.6%
Average age	48.2	48.4	N/A
Average service	13.2	13.4	N/A
Projected total compensation	$64,724,834	$65,188,958	-0.7%
Projected average compensation	$105,760	$105,826	-0.1%
Account balances	$75,480,140	$72,633,459	3.9%
Total active vested members	484	491	-1.4%
Vested terminated members			
Number	82	77	6.5%
Average age	46.7	46.2	N/A
Retired members			
Number in pay status	277	245	13.1%
Average age	66.8	66.8	N/A
Average monthly benefit(1)	$4,501	$4,266	5.5%
Disabled members			
Number in pay status	14	14	0.0%
Average age	65.3	66.3	N/A
Average monthly benefit(1)	$2,857	$2,540	12.5%
Beneficiaries			
Number in pay status	49	50	-2.0%
Average age	69.4	68.9	N/A
Average monthly benefit(1)	$1,793	$1,723	4.1%

(1) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

iv. Rate Group #5 – General OCTA – 2.0% at 57 and 1.6667% at 57.5

Category	Year Ended December 31		Change From Prior Year
	2012	2011	
Active members in valuation			
Number	1,509	1,549	-2.6%
Average age	49.9	49.5	N/A
Average service	13.4	13.1	N/A
Projected total compensation	$100,681,092	$103,674,469	-2.9%
Projected average compensation	$66,720	$66,930	-0.3%
Account balances	$110,940,980	$106,002,910	4.7%
Total active vested members	1,334	1,390	-4.0%
Vested terminated members			
Number	510	507	0.6%
Average age	48.6	48.4	N/A
Retired members			
Number in pay status	654	609	7.4%
Average age	68.5	68.2	N/A
Average monthly benefit[1]	$2,180	$2,136	2.1%
Disabled members			
Number in pay status	240	233	3.0%
Average age	62.9	62.4	N/A
Average monthly benefit[1]	$2,126	$2,080	2.2%
Beneficiaries			
Number in pay status	139	134	3.7%
Average age	68.3	68.0	N/A
Average monthly benefit[1]	$1,216	$1,163	4.6%

[1] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

v. Rate Group #9 – General – TCA – 2.0% at 55

Category	Year Ended December 31: 2012	2011	Change From Prior Year
Active members in valuation			
Number	74	80	-7.5%
Average age	48.9	49.2	N/A
Average service	9.0	8.2	N/A
Projected total compensation	$6,062,757	$6,807,265	-10.9%
Projected average compensation	$81,929	$85,091	-3.7%
Account balances	$4,656,238	$4,720,543	-1.4%
Total active vested members	57	55	3.6%
Vested terminated members			
Number	40	40	0.0%
Average age	42.4	40.9	N/A
Retired members			
Number in pay status	27	21	28.6%
Average age	66.1	65.6	N/A
Average monthly benefit[1]	$2,854	$2,966	-3.8%
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[1]	N/A	N/A	N/A
Beneficiaries			
Number in pay status	1	1	0.0%
Average age	72.7	71.7	N/A
Average monthly benefit[1]	$94	$91	3.3%

[1] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

vi. Rate Group #10 – General – OCFA – 2.7% at 55 and 2.0% at 55

	Year Ended December 31		
Category	**2012**	**2011**	**Change From Prior Year**
Active members in valuation			
Number	246	248	-0.8%
Average age	46.3	46.2	N/A
Average service[1]	12.8	12.9	N/A
Projected total compensation	$21,831,986	$22,016,705	-0.8%
Projected average compensation	$88,748	$88,777	0.0%
Account balances	$22,951,038	$21,254,872	8.0%
Total active vested members	208	207	0.5%
Vested terminated members			
Number	88	88	0.0%
Average age	42.0	41.5	N/A
Retired members			
Number in pay status	95	88	8.0%
Average age	64.8	64.2	N/A
Average monthly benefit[2]	$3,774	$3,601	4.8%
Disabled members			
Number in pay status	9	10	-10.0%
Average age	59.6	59.7	N/A
Average monthly benefit[2]	$2,518	$2,402	4.8%
Beneficiaries			
Number in pay status	7	4	75.0%
Average age	56.1	57.5	N/A
Average monthly benefit[2]	$1,319	$1,624	-18.8%

[1] *For some former Santa Ana employees, service used in calculating the average above is only used for vesting purposes. Benefit service starts to accrue only effective April 2012.*

[2] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

vii. Rate Group #11 – General – Cemetery District – 2.0% at 55 future service

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	21	21	0.0%
Average age	46.2	45.2	N/A
Average service	14.3	13.3	N/A
Projected total compensation	$1,232,371	$1,247,172	-1.2%
Projected average compensation	$58,684	$59,389	-1.2%
Account balances	$1,395,792	$1,238,778	12.7%
Total active vested members	18	17	5.9%
Vested terminated members			
Number	2	2	0.0%
Average age	34.1	33.1	N/A
Retired members			
Number in pay status	5	5	0.0%
Average age	74.3	73.3	N/A
Average monthly benefit[1]	$2,467	$2,407	2.5%
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[1]	N/A	N/A	N/A
Beneficiaries			
Number in pay status	3	3	0.0%
Average age	71.0	70.0	N/A
Average monthly benefit[1]	$1,593	$1,554	2.5%

(1) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

viii. Rate Group #6 – Safety – Probation Officers – 3.0% at 50

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	892	885	0.8%
Average age	41.4	41.2	N/A
Average service	13.6	13.3	N/A
Projected total compensation	$65,185,716	$65,127,165	0.1%
Projected average compensation	$73,078	$73,590	-0.7%
Account balances	$94,640,879	$86,548,283	9.4%
Total active vested members	846	854	-0.9%
Vested terminated members			
Number	208	206	1.0%
Average age	37.3	36.9	N/A
Retired members			
Number in pay status	219	205	6.8%
Average age	64.6	64.3	N/A
Average monthly benefit[1]	$5,411	$5,318	1.7%
Disabled members			
Number in pay status	19	18	5.6%
Average age	53.3	52.5	N/A
Average monthly benefit[1]	$2,592	$2,528	2.5%
Beneficiaries			
Number in pay status	19	15	26.7%
Average age	58.5	59.6	N/A
Average monthly benefit[1]	$2,497	$2,384	4.7%

[1] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

ix. Rate Group #7 – Safety – Law Enforcement – 3.0% at 50 and 3.0% at 55

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	1,888	1,823	3.6%
Average age	41.7	42.3	N/A
Average service	14.6	15.4	N/A
Projected total compensation	$193,630,690	$189,540,039	2.2%
Projected average compensation	$102,559	$103,971	-1.4%
Account balances	$192,619,378	$180,420,063	6.8%
Total active vested members	1,625	1,573	3.3%
Vested terminated members			
Number	164	172	-4.7%
Average age	43.2	42.5	N/A
Retired members			
Number in pay status	997	916	8.8%
Average age	63.3	63.5	N/A
Average monthly benefit[1]	$6,317	$6,140	2.9%
Disabled members			
Number in pay status	325	313	3.8%
Average age	60.6	59.9	N/A
Average monthly benefit[1]	$4,292	$4,070	5.5%
Beneficiaries			
Number in pay status	256	233	9.9%
Average age	65.9	66.6	N/A
Average monthly benefit[1]	$2,564	$2,565	0.0%

[1] *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

x. Rate Group #8 – Safety – Fire Authority – 3.0% at 50 and 3.0% at 55

Category	Year Ended December 31		Change From Prior Year
	2012	2011	
Active members in valuation			
Number	947	996	-4.9%
Average age	44.2	43.7	N/A
Average service[1]	14.6	15.6	N/A
Projected total compensation	$111,826,147	$115,743,179	-3.4%
Projected average compensation	$118,085	$116,208	1.6%
Account balances	$82,887,607	$81,116,035	2.2%
Total active vested members	758	820	-7.6%
Vested terminated members			
Number	35	30	16.7%
Average age	39.6	38.1	N/A
Retired members			
Number in pay status	309	274	12.8%
Average age	62.1	62.0	N/A
Average monthly benefit[2]	$6,785	$6,339	7.0%
Disabled members			
Number in pay status	115	107	7.5%
Average age	62.5	62.1	N/A
Average monthly benefit[2]	$5,520	$5,248	5.2%
Beneficiaries			
Number in pay status	57	47	21.3%
Average age	59.0	59.8	N/A
Average monthly benefit[2]	$2,716	$2,553	6.4%

(1) *For some former Santa Ana employees, service used in calculating the average above is only used for vesting purposes. Benefit service starts to accrue only effective April 2012.*

(2) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT A

Table of Plan Coverage

xi. Total

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	21,256	21,421	-0.8%
Average age	45.5	45.4	N/A
Average service	13.1	13.0	N/A
Projected total compensation	$1,609,600,860	$1,619,474,479	-0.6%
Projected average compensation	$75,725	$75,602	0.2%
Account balances	$1,967,117,073	$1,829,405,790	7.5%
Total active vested members	18,209	17,757	2.5%
Vested terminated members			
Number	4,415	4,406	0.2%
Average age	44.2	43.9	N/A
Retired members			
Number in pay status	10,739	10,189	5.4%
Average age	69.1	69.2	N/A
Average monthly benefit(1)	$3,548	$3,387	4.8%
Disabled members			
Number in pay status	1,319	1,291	2.2%
Average age	63.3	62.8	N/A
Average monthly benefit(1)	$3,037	$2,890	5.1%
Beneficiaries			
Number in pay status	1,889	1,809	4.4%
Average age	72.2	72.2	N/A
Average monthly benefit(1)	$1,685	$1,629	3.4%

(1) *Excludes monthly benefits payable from the RMBR and STAR COLA.*

EXHIBIT B

Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

i. Rate Group #1 – General – non-OCTA, non-OCSD – 2.0% at 57 and 1.6667% at 57.5

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	30	30	- -	- -	- -	- -	- -	- -	- -	- -
	$59,505	$59,505	- -	- -	- -	- -	- -	- -	- -	- -
25-29	119	90	27	2	- -	- -	- -	- -	- -	- -
	50,714	51,248	$49,004	$49,773	- -	- -	- -	- -	- -	- -
30-34	195	69	89	37	- -	- -	- -	- -	- -	- -
	49,377	48,682	49,735	49,813	- -	- -	- -	- -	- -	- -
35-39	188	29	76	70	12	1	- -	- -	- -	- -
	48,841	44,845	49,650	49,494	$49,506	$49,645	- -	- -	- -	- -
40-44	197	18	72	57	26	24	- -	- -	- -	- -
	49,432	43,472	49,532	49,498	51,716	50,971	- -	- -	- -	- -
45-49	127	18	37	27	9	30	6	- -	- -	- -
	49,008	42,727	48,912	49,948	50,069	51,572	$49,792	- -	- -	- -
50-54	118	17	22	25	11	36	4	3	- -	- -
	48,892	41,299	49,966	49,156	49,584	50,998	51,109	$51,091	- -	- -
55-59	133	9	21	16	12	54	4	6	8	3
	51,174	42,720	48,885	49,080	50,036	50,866	51,482	49,622	$77,883	$45,290
60-64	93	3	14	21	9	36	4	4	2	- -
	50,310	43,232	52,459	49,320	51,478	51,432	39,271	52,543	48,428	- -
65-69	47	2	4	6	9	21	2	1	- -	2
	55,630	41,864	50,930	48,541	49,230	50,763	54,119	55,371	- -	181,593
70 & over	18	1	1	3	3	7	1	1	1	- -
	50,925	40,040	49,942	48,960	49,925	48,611	52,858	49,698	87,184	- -
Total	1,265	286	363	264	91	209	21	15	11	5
	$50,102	$48,771	$49,622	$49,490	$50,454	$51,008	$48,919	$51,083	$73,373	$99,811

EXHIBIT B

Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

ii. Rate Group #2 – General – 2.7% at 55, 1.62% at 65 and 2.0% at 57

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	140	132	8	- -	- -	- -	- -	- -	- -	- -
	$47,099	$46,926	$49,947	- -	- -	- -	- -	- -	- -	- -
25-29	907	470	432	5	- -	- -	- -	- -	- -	- -
	52,707	54,054	51,214	$55,134	- -	- -	- -	- -	- -	- -
30-34	1,600	442	893	261	4	- -	- -	- -	- -	- -
	63,601	63,717	64,920	58,977	$58,257	- -	- -	- -	- -	- -
35-39	1,838	269	737	695	135	2	- -	- -	- -	- -
	68,482	65,738	69,259	68,889	67,899	$49,008	- -	- -	- -	- -
40-44	2,071	214	560	702	366	226	3	- -	- -	- -
	74,239	71,239	73,447	75,662	76,206	71,593	$62,304	- -	- -	- -
45-49	2,084	168	421	542	347	482	115	9	- -	- -
	75,232	74,908	71,209	73,872	81,339	76,341	71,980	$98,031	- -	- -
50-54	2,140	133	354	424	299	490	284	151	5	- -
	76,783	76,415	74,132	70,548	76,756	81,080	82,559	76,108	$75,698	- -
55-59	1,521	67	232	354	235	305	201	104	22	1
	75,610	76,296	65,469	71,470	75,288	77,510	88,136	81,758	80,775	$72,598
60-64	969	58	165	271	139	183	100	40	12	1
	74,786	81,111	72,174	70,822	75,414	78,293	79,319	76,050	69,558	43,598
65-69	381	10	66	113	69	66	34	12	9	2
	71,693	69,264	75,366	69,177	74,030	67,963	75,131	61,891	92,041	56,017
70 & over	151	6	27	38	18	35	14	10	2	1
	62,143	55,537	74,000	58,809	72,949	56,989	60,203	47,755	56,660	76,201
Total	13,802	1,969	3,895	3,405	1,612	1,789	751	326	50	5
	$71,080	$64,135	$67,513	$70,824	$76,341	$76,720	$81,166	$77,116	$78,639	$60,886

EXHIBIT B

Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

iii. Rate Group #3 – General – 2.5% at 55 and 1.64% at 57

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	5	5	- -	- -	- -	- -	- -	- -	- -	- -
	$64,004	$64,004	- -	- -	- -	- -	- -	- -	- -	- -
25-29	23	19	4	- -	- -	- -	- -	- -	- -	- -
	73,484	71,034	$85,118	- -	- -	- -	- -	- -	- -	- -
30-34	50	24	24	2	- -	- -	- -	- -	- -	- -
	86,663	81,227	91,378	$95,320	- -	- -	- -	- -	- -	- -
35-39	54	22	27	5	- -	- -	- -	- -	- -	- -
	89,961	87,924	90,274	97,236	- -	- -	- -	- -	- -	- -
40-44	89	19	26	19	11	14	- -	- -	- -	- -
	106,343	99,290	104,402	108,088	$122,056	$104,802	- -	- -	- -	- -
45-49	114	17	25	10	22	33	7	- -	- -	- -
	112,656	102,289	112,049	104,753	123,233	114,913	$107,408	- -	- -	- -
50-54	109	22	15	12	11	33	12	4	- -	- -
	111,343	88,412	104,280	115,835	131,639	117,274	112,096	$143,485	- -	- -
55-59	97	9	15	14	18	24	10	7	- -	- -
	114,885	92,723	112,906	109,263	120,026	118,708	118,299	127,660	- -	- -
60-64	40	2	7	9	7	8	6	1	- -	- -
	113,375	87,511	114,398	119,141	99,165	110,274	134,405	104,149	- -	- -
65-69	23	1	5	5	4	5	2	1	- -	- -
	113,035	72,026	107,975	128,671	108,602	117,635	116,701	88,556	- -	- -
70 & over	8	- -	1	- -	2	3	2	- -	- -	- -
	100,165	- -	87,097	- -	125,522	91,030	95,044	- -	- -	- -
Total	612	140	149	76	75	120	39	13	- -	- -
	$105,760	$87,182	$101,826	$110,702	$120,558	$114,349	$115,639	$127,712	- -	- -

EXHIBIT B

Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

iv. Rate Group #5 – General OCTA – 2.0% at 57 and 1.6667% at 57.5

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	10	9	1	- -	- -	- -	- -	- -	- -	- -
	$46,748	$45,783	$55,439	- -	- -	- -	- -	- -	- -	- -
25-29	36	26	10	- -	- -	- -	- -	- -	- -	- -
	52,601	50,192	58,866	- -	- -	- -	- -	- -	- -	- -
30-34	100	23	57	20	- -	- -	- -	- -	- -	- -
	63,013	63,514	62,657	$63,452	- -	- -	- -	- -	- -	- -
35-39	132	22	56	50	4	- -	- -	- -	- -	- -
	64,408	66,894	65,064	63,109	$57,775	- -	- -	- -	- -	- -
40-44	185	35	60	69	13	8	- -	- -	- -	- -
	65,502	70,862	68,107	60,662	64,160	$66,450	- -	- -	- -	- -
45-49	229	16	80	78	22	26	6	1	- -	- -
	66,232	80,658	63,791	62,215	67,380	73,748	$74,402	$74,310	- -	- -
50-54	290	14	73	94	25	46	27	11	- -	- -
	69,207	91,774	68,253	63,700	80,605	70,920	67,336	65,414	- -	- -
55-59	283	24	49	64	27	42	31	38	8	- -
	70,099	73,131	71,247	59,599	79,668	72,625	75,441	68,048	$81,442	- -
60-64	172	12	33	45	11	27	16	17	11	- -
	65,715	80,044	61,170	61,461	66,233	60,271	75,212	67,712	77,066	- -
65-69	62	3	16	14	11	12	3	2	1	- -
	71,998	188,938	62,608	70,395	60,238	67,870	86,213	59,923	54,286	- -
70 & over	10	- -	5	2	1	1	- -	1	- -	- -
	55,688	- -	52,499	59,771	55,350	60,903	- -	58,592	- -	- -
Total	1,509	184	440	436	114	162	83	70	20	- -
	$66,720	$70,584	$65,466	$62,238	$71,581	$69,533	$73,075	$67,274	$77,677	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

v. Rate Group #9 – General – TCA – 2.0% at 55

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
25-29	3	1	2	- -	- -	- -	- -	- -	- -	- -
	$44,609	$58,013	$37,908	- -	- -	- -	- -	- -	- -	- -
30-34	9	6	2	1	- -	- -	- -	- -	- -	- -
	54,858	59,319	41,057	$55,692	- -	- -	- -	- -	- -	- -
35-39	9	- -	6	3	- -	- -	- -	- -	- -	- -
	60,377	- -	66,989	47,152	- -	- -	- -	- -	- -	- -
40-44	5	1	3	- -	1	- -	- -	- -	- -	- -
	78,221	94,448	76,222	- -	$67,994	- -	- -	- -	- -	- -
45-49	10	2	3	4	- -	1	- -	- -	- -	- -
	96,534	95,162	73,759	91,954	- -	$185,921	- -	- -	- -	- -
50-54	12	3	3	4	2	- -	- -	- -	- -	- -
	96,777	94,649	85,362	98,927	112,791	- -	- -	- -	- -	- -
55-59	12	2	4	1	4	1	- -	- -	- -	- -
	105,605	144,398	95,666	75,020	111,782	73,648	- -	- -	- -	- -
60-64	9	1	5	3	- -	- -	- -	- -	- -	- -
	59,418	62,256	59,181	58,866	- -	- -	- -	- -	- -	- -
65-69	4	1	3	- -	- -	- -	- -	- -	- -	- -
	92,815	206,784	54,825	- -	- -	- -	- -	- -	- -	- -
70 & over	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	200,771	- -	200,771	- -	- -	- -	- -	- -	- -	- -
Total	74	17	32	16	7	2	- -	- -	- -	- -
	$81,929	$90,617	$72,178	$75,768	$105,815	$129,785	- -	- -	- -	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

vi. Rate Group #10 – General – OCFA – 2.7% at 55 and 2.0% at 55

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	$53,873	- -	$53,873	- -	- -	- -	- -	- -	- -	- -
25-29	11	7	4	- -	- -	- -	- -	- -	- -	- -
	60,850	$53,636	73,475	- -	- -	- -	- -	- -	- -	- -
30-34	27	13	11	3	- -	- -	- -	- -	- -	- -
	70,861	67,483	71,731	$82,309	- -	- -	- -	- -	- -	- -
35-39	30	7	15	8	- -	- -	- -	- -	- -	- -
	77,352	53,095	85,443	83,406	- -	- -	- -	- -	- -	- -
40-44	24	5	5	10	4	- -	- -	- -	- -	- -
	96,231	92,212	97,899	88,219	$119,200	- -	- -	- -	- -	- -
45-49	57	3	8	18	9	16	3	- -	- -	- -
	87,745	88,824	95,639	79,804	94,367	$87,364	$95,434	- -	- -	- -
50-54	48	5	6	14	9	4	8	2	- -	- -
	99,788	131,141	90,547	83,517	103,857	85,043	111,870	$125,863	- -	- -
55-59	30	1	5	11	2	5	4	2	- -	- -
	100,976	96,964	106,970	97,666	125,879	82,327	112,131	105,615	- -	- -
60-64	15	1	4	5	3	1	1	- -	- -	- -
	98,435	105,568	105,685	109,527	83,247	81,246	69,597	- -	- -	- -
65-69	3	- -	- -	3	- -	- -	- -	- -	- -	- -
	89,437	- -	- -	89,437	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	246	42	59	72	27	26	16	4	- -	- -
	$88,748	$76,433	$87,694	$87,394	$102,308	$85,803	$106,212	$115,739	- -	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

vii. Rate Group #11 – General – Cemetery District – 2.0% at 55 future service

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
25-29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
30-34	5	3	1	1	- -	- -	- -	- -	- -	- -
	$45,823	$43,063	$48,287	$51,640	- -	- -	- -	- -	- -	- -
35-39	2	- -	1	1	- -	- -	- -	- -	- -	- -
	60,632	- -	44,251	77,013	- -	- -	- -	- -	- -	- -
40-44	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
45-49	7	- -	2	1	2	2	- -	- -	- -	- -
	63,451	- -	91,400	64,914	$49,087	$49,136	- -	- -	- -	- -
50-54	1	- -	- -	- -	1	- -	- -	- -	- -	- -
	77,284	- -	- -	- -	77,284	- -	- -	- -	- -	- -
55-59	5	- -	- -	- -	2	2	1	- -	- -	- -
	61,380	- -	- -	- -	66,073	49,110	$76,533	- -	- -	- -
60-64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65-69	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	53,649	- -	53,649	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	21	3	5	3	5	4	1	- -	- -	- -
	$58,684	$43,063	$65,798	$64,522	$61,521	$49,123	$76,533	- -	- -	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

viii. Rate Group #6 – Safety – Probation Officers – 3.0% at 50

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	12	12	- -	- -	- -	- -	- -	- -	- -	- -
	$48,951	$48,951	- -	- -	- -	- -	- -	- -	- -	- -
25-29	42	13	29	- -	- -	- -	- -	- -	- -	- -
	54,839	49,166	$57,382	- -	- -	- -	- -	- -	- -	- -
30-34	146	8	99	39	- -	- -	- -	- -	- -	- -
	64,509	48,388	63,081	$71,442	- -	- -	- -	- -	- -	- -
35-39	236	12	56	150	18	- -	- -	- -	- -	- -
	71,322	51,279	67,238	73,461	$79,568	- -	- -	- -	- -	- -
40-44	189	- -	20	73	84	12	- -	- -	- -	- -
	76,319	- -	64,092	72,385	81,504	$84,338	- -	- -	- -	- -
45-49	119	- -	6	30	35	39	9	- -	- -	- -
	81,031	- -	67,133	72,039	80,091	86,682	$99,437	- -	- -	- -
50-54	73	2	1	9	14	20	18	9	- -	- -
	83,795	49,078	64,789	73,556	76,186	82,127	97,309	$92,373	- -	- -
55-59	49	- -	3	11	7	10	13	5	- -	- -
	79,748	- -	62,284	67,239	73,654	83,062	92,678	86,033	- -	- -
60-64	23	- -	1	7	2	6	6	1	- -	- -
	72,542	- -	65,321	62,113	69,495	83,888	74,346	79,962	- -	- -
65-69	3	- -	- -	- -	- -	- -	1	1	1	- -
	94,877	- -	- -	- -	- -	- -	94,932	95,835	$93,863	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	892	47	215	319	160	87	47	16	1	- -
	$73,078	$49,515	$63,609	$72,373	$80,018	$84,703	$93,454	$89,832	$93,863	- -

EXHIBIT B

Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

ix. Rate Group #7 – Safety – Law Enforcement – 3.0% at 50 and 3.0% at 55

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	47	42	5	- -	- -	- -	- -	- -	- -	- -
	$70,579	$68,881	$84,847	- -	- -	- -	- -	- -	- -	- -
25-29	189	109	80	- -	- -	- -	- -	- -	- -	- -
	79,869	73,628	88,373	- -	- -	- -	- -	- -	- -	- -
30-34	234	50	141	41	2	- -	- -	- -	- -	- -
	91,032	75,896	93,703	$99,969	$97,915	- -	- -	- -	- -	- -
35-39	290	25	80	137	48	- -	- -	- -	- -	- -
	99,154	89,794	94,327	101,342	105,825	- -	- -	- -	- -	- -
40-44	391	12	61	101	171	44	2	- -	- -	- -
	105,238	97,789	104,454	102,007	107,418	$106,308	$127,075	- -	- -	- -
45-49	406	3	29	56	79	160	78	1	- -	- -
	112,456	119,338	107,493	107,457	107,780	111,780	123,590	$124,753	- -	- -
50-54	231	16	7	16	32	45	107	8	- -	- -
	116,739	112,873	115,268	111,268	115,607	108,754	121,281	125,400	- -	- -
55-59	74	10	13	1	6	15	25	4	- -	- -
	113,295	124,337	113,408	119,025	105,802	110,512	110,132	125,340	- -	- -
60-64	19	- -	4	5	- -	5	4	1	- -	- -
	108,454	- -	113,891	108,341	- -	109,080	104,087	101,617	- -	- -
65-69	7	2	- -	2	1	- -	1	1	- -	- -
	135,119	168,688	- -	119,695	142,718	- -	124,850	101,500	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	1,888	269	420	359	339	269	217	15	- -	- -
	$102,559	$81,324	$96,377	$103,018	$108,069	$110,258	$120,579	$122,162	- -	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

x. Rate Group #8 – Safety – Fire Authority – 3.0% at 50 and 3.0% at 55

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	$40,506	$40,506	- -	- -	- -	- -	- -	- -	- -	- -
25-29	56	39	17	- -	- -	- -	- -	- -	- -	- -
	94,137	87,836	$108,593	- -	- -	- -	- -	- -	- -	- -
30-34	134	61	64	9	- -	- -	- -	- -	- -	- -
	107,563	101,251	113,090	$111,037	- -	- -	- -	- -	- -	- -
35-39	151	52	59	35	5	- -	- -	- -	- -	- -
	111,381	101,614	117,167	114,592	$122,207	- -	- -	- -	- -	- -
40-44	136	32	35	31	24	14	- -	- -	- -	- -
	118,482	109,379	115,866	118,858	125,241	$133,408	- -	- -	- -	- -
45-49	162	29	11	29	33	42	18	- -	- -	- -
	126,128	125,586	113,761	122,771	122,657	130,309	$136,579	- -	- -	- -
50-54	195	44	6	13	30	33	40	29	- -	- -
	125,454	118,023	118,353	116,849	125,627	126,923	124,362	$141,711	- -	- -
55-59	87	19	- -	3	19	9	8	29	- -	- -
	131,120	112,901	- -	117,857	125,447	132,270	128,971	148,380	- -	- -
60-64	19	6	1	- -	1	5	- -	6	- -	- -
	118,797	108,106	124,649	- -	100,115	119,990	- -	130,631	- -	- -
65-69	4	- -	- -	2	- -	- -	- -	2	- -	- -
	127,302	- -	- -	125,269	- -	- -	- -	129,336	- -	- -
70 & over	1	- -	- -	1	- -	- -	- -	- -	- -	- -
	57,936	- -	- -	57,936	- -	- -	- -	- -	- -	- -
Total	947	284	193	123	112	103	66	66	- -	- -
	$118,085	$105,971	$114,706	$117,366	$124,258	$129,315	$128,253	$143,259	- -	- -

EXHIBIT B
Members in Active Service and Projected Average Compensation as of December 31, 2012
By Age and Years of Service

xi. Total

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	247	232	15	- -	- -	- -	- -	- -	- -	- -
	$53,466	$52,901	$62,208	- -	- -	- -	- -	- -	- -	- -
25-29	1,386	774	605	7	- -	- -	- -	- -	- -	- -
	58,368	58,393	58,391	$53,602	- -	- -	- -	- -	- -	- -
30-34	2,500	699	1,381	414	6	- -	- -	- -	- -	- -
	67,918	66,742	69,354	65,059	$71,476	- -	- -	- -	- -	- -
35-39	2,930	438	1,113	1,154	222	3	- -	- -	- -	- -
	72,970	70,561	72,642	73,469	77,092	$49,220	- -	- -	- -	- -
40-44	3,287	336	842	1,062	700	342	5	- -	- -	- -
	78,934	76,260	75,920	77,523	85,969	78,829	$88,212	- -	- -	- -
45-49	3,315	256	622	795	558	831	242	11	- -	- -
	82,401	81,406	73,366	76,598	88,139	87,212	95,266	$98,304	- -	- -
50-54	3,217	256	487	611	434	707	500	217	5	- -
	82,644	86,453	74,476	72,087	84,634	84,530	94,825	88,180	$75,698	- -
55-59	2,291	141	342	475	332	467	297	195	38	4
	79,045	84,115	70,113	71,140	81,233	78,263	90,767	90,901	80,307	$52,117
60-64	1,359	83	234	366	172	271	137	70	25	1
	74,306	81,760	71,909	70,402	74,752	75,345	80,517	78,183	71,171	43,598
65-69	535	19	95	145	94	104	43	20	11	4
	73,694	103,124	73,028	72,382	72,244	66,867	78,477	73,124	88,774	118,805
70 & over	189	7	35	44	24	46	17	12	3	1
	63,053	53,323	74,237	58,162	73,719	58,019	63,870	48,820	66,834	76,201
Total	21,256	3,241	5,771	5,073	2,542	2,771	1,241	525	82	10
	$75,725	$69,300	$70,882	$73,325	$83,407	$81,535	$91,343	$86,597	$77,883	$80,349

EXHIBIT C

Reconciliation of Member Data – December 31, 2011 to December 31, 2012

	Active Members	Vested Former Members	Pensioners	Disableds	Beneficiaries	Total
Number as of December 31, 2011	21,421	4,406	10,189	1,291	1,809	39,116
New members	916	69	0	0	157	1,142
Terminations – with vested rights	-266[(1)]	266	0	0	0	0
Contributions refunds	-138[(2)]	-106	0	0	0	-244
Retirements	-712	-127	839	0	0	0
New disabilities	-23	-5	-21	49	0	0
Return to work	85	-84	-1	0	0	0
Deaths	-25	-5	-269	-21	-77	-397
Data adjustments	-2	1	2	0	0	1
Number as of December 31, 2012	21,256[(3)]	4,415[(3)]	10,739	1,319	1,889	39,618

(1) *Includes 11 terminated before January 1, 2012.*
(2) *Includes 5 terminated before January 1, 2012.*
(3) *Note that 33 members that were originally reported by OCERS as active or active on leave of absence were reclassified by Segal as vested former members in the December 31, 2012 valuation.*

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended December 31, 2012		Year Ended December 31, 2011	
Contribution income:				
Employer contributions	$406,521,000		$387,585,000	
Employee contributions	191,069,000		183,820,000	
Discount for prepaid contributions	24,874,000		15,866,000	
Transfer from County Investment Account[1]	5,500,000		11,000,000	
Net contribution income		$627,964,000		$598,271,000
Investment income:				
Interest, dividends and other income	$200,599,000		$252,702,000	
Recognition of capital appreciation	172,821,000		88,385,000	
Less investment and administrative fees	-55,287,000		-54,502,000	
Net investment income		$318,033,000		$286,585,000
Total income available for benefits		$945,997,000		$884,856,000
Less benefit payments		-$541,154,000		-$493,749,000
Change in reserve for future benefits		$404,843,000		$391,107,000

(1) *Funded by pension obligation bond proceeds held by OCERS.*

EXHIBIT E

Summary Statement of Assets

	Year Ended December 31, 2012		Year Ended December 31, 2011	
Cash equivalents		$412,948,000		$444,193,000
Accounts receivable:				
Contributions	$13,408,000		$10,692,000	
Investment income	21,705,000		23,755,000	
Securities settlements	131,660,000		245,108,000	
Other	10,352,000		1,287,000	
Total accounts receivable		$177,125,000		$280,842,000
Investments:				
Fixed income investments	$3,024,092,000		$3,074,927,000	
Equities	4,060,761,000		3,400,420,000	
Real estate	999,490,000		803,545,000	
Venture capital and limited partnership interests	1,524,642,000		1,209,504,000	
Security lending collateral	301,332,000		420,716,000	
Fixed assets net of accumulated depreciation	10,459,000		4,209,000	
Total investments at market value		$9,920,776,000		$8,913,319,000
Total assets		$10,510,849,000		$9,638,354,000
Less accounts payable:				
Securities settlements	-$305,881,000		-$438,368,000	
Security lending liability	-301,332,000		-420,716,000	
All other	-55,869,000		-53,038,000	
Total accounts payable		-$663,082,000		-$912,121,000
Net assets at market value[(1)]		$9,566,874,000		$8,465,593,000
Net assets at actuarial value		$9,469,423,000		$9,064,580,000
Net assets at valuation value		$9,469,208,000		$9,064,355,000

(1) *The market value excludes $103,261,000 and $97,767,000 as of December 31, 2012 and December 31, 2011, respectively, in the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and $177,632,000 and $162,873,000 as of December 31, 2012 and December 31,2011, respectively, in the prepaid employer contributions account.*

Note: Results may not total exactly due to rounding.

EXHIBIT F

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments.

Assets		
1.	Total valuation value of assets	$9,469,208,000
2.	Present value of future contributions by members	1,818,546,000
3.	Present value of future employer contributions for:	
	a. entry age normal cost	2,073,601,000
	b. unfunded actuarial accrued liability	5,675,680,000
4.	Total current and future assets	$19,037,035,000
Liabilities		
5.	Present value of retirement allowance payable to present retired members	$7,567,000,000
6.	Present value of retirement allowances to be granted to present non-retired members	11,470,035,000
7.	Total actuarial liabilities	$19,037,035,000

EXHIBIT G

Summary of Reported Asset Information as of December 31, 2012

Reserves		
Included in Valuation Value of Assets		
Active Members Reserve (Book Value)		$2,109,464,000
Retired Members Reserve (Book Value)		6,630,432,000
Employer Advanced Reserve (Book Value)		1,564,191,000
ERI Contribution Reserve		5,321,000
STAR COLA Contribution Reserve		0
Unrealized Appreciation Included in Valuation Value of Assets		-840,200,000
Subtotal: Valuation Value of Assets		$9,469,208,000
Not Included in Valuation Value of Assets		
RMBR	$0	
Unclaimed Member Deposit	123,000	
Medicare Medical Insurance Reserve	92,000	
Total	$215,000	
Subtotal: Actuarial Value of Assets		$9,469,423,000
Unrecognized Investment Income (Loss)		97,451,000
Subtotal: Market Value of Assets (Net of County Investment Account[1] and Prepaid Employer Contributions)		$9,566,874,000
County Investment Account[1]		103,261,000
Prepaid Employer Contributions		177,632,000
Total: Gross Market Value of Assets		$9,847,767,000

[1] *Funded by pension obligation bond proceeds held by OCERS.*

EXHIBIT H

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended December 31, 2012

1.	Unfunded actuarial accrued liability at beginning of year		$4,458,623,000
2.	Total normal cost at middle of year		410,258,000
3.	Actual employer and member contributions		-627,964,000
4.	Interest		337,107,000
5.	Expected unfunded actuarial accrued liability		$4,578,024,000
6.	Actuarial (gain)/loss and other changes:		
	(a) Loss on investment return	$387,808,000	
	(b) Gain on lower than expected salary increases	-244,750,000	
	(c) Other experience (gain)/loss	19,979,000	
	(d) Changes in economic assumptions	934,619,000	
	Total changes		$1,097,656,000
7.	Unfunded actuarial accrued liability at end of year		$5,675,680,000

Note: The sum of 6(b) through 6(c) is equal to the “other experience” gain of $224,771,000 provided on page 7.

EXHIBIT I

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar indexed for inflation. That limit is $200,000 for 2012 and $205,000 for 2013. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for non-CalPEPRA plans that are in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contributions rates for non-CalPEPRA plans determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

EXHIBIT J
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age; and

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the level cost allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners: The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability:	The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There are many approaches to paying off the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.
Amortization of the Unfunded (Overfunded) Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired members as of the valuation date (including 1,889 beneficiaries in pay status)		13,947
2.	Members inactive during year ended December 31, 2012 with vested rights*		4,415
3.	Members active during the year ended December 31, 2012		21,256

The actuarial factors as of the valuation date are as follows (amounts in 000s):

1.	Normal cost		$460,681
2.	Present value of future benefits		19,037,035
3.	Present value of future normal costs		3,892,147
4.	Actuarial accrued liability**		15,144,888
	Retired members and beneficiaries	$7,567,000	
	Inactive members with vested rights*	352,478	
	Active members	7,225,410	
5.	Valuation value of assets*** ($9,566,874 at market value as reported by Retirement System)		9,469,208
6.	Unfunded actuarial accrued liability		$5,675,680

* *This includes members who chose to leave their contributions on deposit even though they have less than five years of service.*

** *Excludes liabilities held for RMBR and STAR COLA.*

*** *Excludes assets held for Unclaimed member deposit, Medicare medical insurance reserve and RMBR.*

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows (amounts in 000s):

		Dollar Amount	% of Payroll
1.	Total normal cost	$460,681	28.62%
2.	Expected employee contributions	-207,215	-12.87%
3.	Employer normal cost: (1) + (2)	$253,466	15.75%
4.	Amortization of unfunded actuarial accrued liability	416,665	25.89%
5.	Total recommended average employer contribution: (3) + (4)	$670,131	41.64%
6.	Projected compensation	$1,609,600	

EXHIBIT II

Supplementary Information Required by GASB – Schedule of Employer Contributions

Plan Year Ended December 31	Annual Required Contributions	Actual Contributions[1]	Percentage Contributed
2007	$326,736,000	$326,736,000	100.0%
2008	359,673,000	360,365,000[2]	100.2%
2009	337,496,000	338,387,000[3]	100.3%
2010	372,437,000	372,437,000	100.0%
2011	387,585,000	387,585,000	100.0%
2012	406,521,000	406,521,000	100.0%

[1] *Excludes transfers from County Investment Account (funded by pension obligation bond proceeds held by OCERS). See below.*

Plan Year Ended December 31	*Transfers from County Investment Account*
2007	*$0*
2008	*0*
2009	*34,900,000*
2010	*11,000,000*
2011	*11,000,000*
2012	*5,500,000*

[2] *Includes $692,000 in additional contributions made by OCFA towards the reduction of their UAAL.*

[3] *Includes $891,000 in additional contributions made by OCFA towards the reduction of their UAAL.*

EXHIBIT III

Supplementary Information Required by GASB – Schedule of Funding Progress

Actuarial Valuation Date December 31	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
2007	$7,288,900,000	$9,838,686,000	$2,549,786,000	74.08%	$1,457,159,000	174.98%
2008	7,748,380,000	10,860,715,000	3,112,335,000	71.34%	1,569,764,000	198.27%
2009	8,154,687,000	11,858,578,000	3,703,891,000	68.77%	1,618,491,000	228.85%
2010	8,672,592,000	12,425,873,000	3,753,281,000	69.79%	1,579,239,000	237.66%
2011	9,064,355,000	13,522,978,000	4,458,623,000	67.03%	1,619,474,000	275.31%
2012	9,469,208,000	15,144,888,000	5,675,680,000	62.52%	1,609,600,000	352.55%

For informational purposes only, we have also developed the funded ratio determined using the historical market value of assets after adjustment for amounts in the County Investment Account (funded by pension obligation bond proceeds held by OCERS), prepaid employer contributions, unclaimed member reserve, Medicare Medical Insurance Reserve and RMBR.

Actuarial Valuation Date December 31	Funded Ratio Based on Net Market Value of Assets
2007	78.43%
2008	57.51%
2009	62.94%
2010	67.25%
2011	62.60%
2012	63.17%

EXHIBIT IV

Supplementary Information Required by GASB

Valuation date	December 31, 2012
Actuarial cost method	Entry Age Normal Actuarial Cost Method
Amortization method	Level percent of payroll for total unfunded liability (3.75% payroll growth assumed)
Remaining amortization period	22 years closed (declining) amortization of outstanding balance of December 31, 2004 UAAL. The outstanding balance of the UAAL established in the December 31, 2009 valuation as a result of including additional premium pay items as pensionable salary and the new UAAL established in the December 31, 2010 valuation as a result of reallocating contributions and benefit payments among Rate Groups are also amortized over a 22-year period, in the December 31, 2012 valuation. Any increases or decreases in UAAL that arise in future years due to actuarial gains or losses will be amortized over separate 15-year periods. Any increases or decreases in UAAL due to changes in actuarial assumptions are amortized over separate 30-year periods.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a five-year period. The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Actuarial assumptions:	
Investment rate of return	7.25%
Inflation rate	3.25%
Real across-the-board salary increase	0.50%
Projected salary increases *	4.75% to 13.75% for General members; 4.75% to 17.75% for Safety members based on service.
Cost of living adjustments	3.00%
Plan membership:	
Retired members and beneficiaries receiving benefits	13,947
Terminated members entitled to, but not yet receiving benefits	4,415
Active members	21,256
Total	39,618

* *See Exhibit V for these increases, including inflation rate.*

EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Post – Retirement Mortality Rates:

Healthy:	For General Members and all Beneficiaries: RP-2000 Combined Healthy Mortality Table set back three years.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table set forward three years.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set forward two years.
	The mortality tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of the mortality experience in the January 1, 2008 through December 31, 2010 Actuarial Experience Study.
Employee Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table set back three years, weighted 40% male and 60% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years, weighted 80% male and 20% female.

Termination Rates Before Retirement:

	Rate (%)			
	Mortality			
	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.06	0.04	0.06	0.04
40	0.09	0.06	0.10	0.06
45	0.12	0.09	0.13	0.09
50	0.17	0.13	0.19	0.14
55	0.27	0.20	0.29	0.22
60	0.47	0.35	0.53	0.39
65	0.88	0.67	1.00	0.76

All pre-retirement deaths are assumed to be non-service connected.

Termination Rates Before Retirement (Continued):

	Rate (%)			
	Disability			
Age	General All Other[(1)]	General OCTA[(2)]	Safety - Law & Fire[(3)]	Safety - Probation[(3)]
20	0.00	0.00	0.01	0.00
25	0.00	0.00	0.04	0.06
30	0.02	0.03	0.08	0.16
35	0.06	0.08	0.22	0.20
40	0.11	0.28	0.36	0.20
45	0.14	0.46	0.52	0.20
50	0.15	0.56	0.96	0.20
55	0.18	0.84	1.68	0.20
60	0.32	1.30	3.80	0.08

(1) *50% of General All Other disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected.*

(2) *70% of General - OCTA disabilities are assumed to be service connected disabilities. The other 30% are assumed to be non-service connected.*

(3) *100% of Safety – Law Enforcement, Fire and Probation disabilities are assumed to be service connected disabilities.*

Termination Rates Before Retirement (Continued):

	Rate (%) Termination (< 5 Years of Service)			
Years of Service	General All Other[1]	General OCTA[1]	Safety – Law & Fire[2]	Safety - Probation[2]
0	13.0	20.0	4.0	20.0
1	8.0	16.0	3.0	15.0
2	7.0	12.0	2.0	10.0
3	6.0	9.0	2.0	5.0
4	5.0	7.0	1.0	4.0

	Termination (5+ Years of Service)			
Age	General All Other[3]	General OCTA[3]	Safety – Law & Fire[3]	Safety – Probation[3]
20	5.0	4.0	1.0	4.0
25	4.4	4.0	1.0	4.0
30	4.0	4.0	1.0	3.4
35	3.4	4.0	0.9	3.0
40	3.0	3.4	0.6	2.4
45	2.4	3.0	0.5	2.0
50	2.3	3.0	0.2	2.0
55	2.5	3.0	0.0	1.4
60	2.5	3.0	0.0	0.4

(1) *50% of all terminated members will choose a refund of contributions and 50% will choose a deferred vested benefit.*

(2) *40% of all terminated members will choose a refund of contributions and 60% will choose a deferred vested benefit.*

(3) *30% of terminated members will choose a refund of contributions and 70% will choose a deferred vested benefit.*

Retirement Rates:

	Rate (%)							
Age	General - Enhanced	General - Non-Enhanced[1]	General - SJC (31676.12)	Safety - Law (31664.1)[2]	Safety - Law (31664.2)[2]	Safety - Fire (31664.1)[2]	Safety - Fire (31664.2)[2]	Safety - Probation[2]
49	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
50	3.0	2.0	3.0	14.0	11.5	7.0	8.0	4.0
51	2.0	2.0	3.0	14.0	12.0	9.0	10.0	4.0
52	2.0	2.0	3.0	14.0	12.7	11.0	11.0	4.0
53	2.0	2.0	3.0	14.0	17.9	12.0	12.0	4.0
54	5.0	2.0	3.0	20.0	18.8	16.0	14.0	8.0
55	15.0	3.0	4.0	20.0	30.7	20.0	24.0	12.0
56	9.0	4.0	5.0	20.0	20.0	20.0	23.0	12.0
57	9.0	6.0	6.0	20.0	20.0	25.0	27.0	16.0
58	9.0	8.0	7.0	20.0	25.0	25.0	27.0	25.0
59	9.0	8.0	9.0	25.0	30.0	30.0	36.0	25.0
60	12.0	8.0	11.0	60.0	100.0	60.0	100.0	25.0
61	12.0	8.0	13.0	60.0	100.0	60.0	100.0	25.0
62	17.0	16.0	15.0	60.0	100.0	60.0	100.0	25.0
63	15.0	16.0	15.0	60.0	100.0	60.0	100.0	50.0
64	18.0	16.0	20.0	60.0	100.0	60.0	100.0	100.0
65	20.0	20.0	20.0	100.0	100.0	100.0	100.0	100.0
66	25.0	25.0	24.0	100.0	100.0	100.0	100.0	100.0
67	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
68	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
69	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
70	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
71	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
72	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
73	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
74	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) *These assumptions are also used for the CalPEPRA 1.62% @ 65 formula (Plan T).*

(2) *Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.*

Retirement Rates (Continued):

	Rate (%)			
Age	CalPEPRA 2.5% @ 67 General Formula	CalPEPRA Safety - Probation Formula[1]	CalPEPRA Safety - Law Formula[1]	CalPEPRA Safety - Fire Formula[1]
50	0.0	3.0	10.0	7.0
51	0.0	3.0	10.5	8.5
52	4.0	3.0	11.0	9.5
53	1.5	3.0	15.5	10.5
54	1.5	7.0	16.5	12.0
55	2.5	10.5	27.0	21.0
56	3.5	10.5	17.5	20.0
57	5.5	14.0	18.0	23.5
58	7.5	22.0	22.0	23.5
59	7.5	22.0	26.0	31.5
60	7.5	100.0	100.0	100.0
61	7.5	100.0	100.0	100.0
62	15.0	100.0	100.0	100.0
63	15.0	100.0	100.0	100.0
64	15.0	100.0	100.0	100.0
65	19.0	100.0	100.0	100.0
66	25.0	100.0	100.0	100.0
67	21.0	100.0	100.0	100.0
68	21.0	100.0	100.0	100.0
69	21.0	100.0	100.0	100.0
70	40.0	100.0	100.0	100.0
71	40.0	100.0	100.0	100.0
72	40.0	100.0	100.0	100.0
73	40.0	100.0	100.0	100.0
74	40.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0

(1) *Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.*

Retirement Age and Benefit for Deferred Vested Members:	For deferred vested members, we make the following retirement age assumptions: General Age: 57 Safety Age: 53 We assume that 25% of future General and 30% of future Safety deferred vested members are reciprocal. For reciprocals, we assume 4.75% compensation increases per annum.
Liability Calculation for Current Deferred Vested Members:	Liability for a current deferred vested member is calculated based on salary, service, and eligibility for reciprocal benefit as provided by the Retirement System. For those members without salary information that have 3 or more years of service, we used an average salary. For those members without salary information that have less than 3 years of service or for those members without service information, we assumed a refund of account balance.
Future Benefit Accruals:	1.0 year of service per year of employment. There is no assumption to anticipate conversion of unused sick leave at retirement.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Percent Married:	80% of male members and 50% of female members are assumed to be married at retirement or time of pre-retirement death.
Age of Spouse:	Female (or male) three years younger (or older) than spouse.
Net Investment Return:	7.25%; net of investment and administrative expenses.
Employee Contribution Crediting Rate:	5.00%, compounded semi-annually.
Consumer Price Index:	Increase of 3.25% per year, retiree COLA increases due to CPI subject to a 3.0% maximum change per year.

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.25% per year, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	General	Safety
Less than 1	10.00%	14.00%
1	7.00	9.00
2	6.00	8.00
3	5.00	7.00
4	4.00	5.00
5	3.00	4.00
6	2.00	3.00
7	1.75	3.00
8	1.50	2.00
9	1.25	2.00
10	1.25	1.50
11	1.25	1.50
12	1.25	1.50
13	1.25	1.50
14	1.25	1.50
15	1.25	1.50
16	1.00	1.00
17	1.00	1.00
18	1.00	1.00
19	1.00	1.00
20 & over	1.00	1.00

Annual Payoffs Assumptions:

Non-CalPEPRA Formulas

Additional compensation amounts are expected to be received during a member's final average earnings period. The percentages used in this valuation are:

	Final One Year Salary	Final Three Year Salary
General Members	4.00%	2.70%
Safety - Probation	5.20%	2.70%
Safety - Law	6.60%	4.50%
Safety - Fire	4.00%	2.00%

The annual payoffs assumptions are the same for service and disability retirements.

CalPEPRA Formulas

None

Actuarial Value of Assets:

Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a five-year period.

Valuation Value of Assets:

The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the current age minus Vesting Credit. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salaries, with Normal Cost determined as a level percentage of individual salary, as if the current benefit accrual rate had always been in effect. The outstanding balance of the December 31, 2004 Unfunded Actuarial Accrued Liability is amortized over a declining 22-year period. The outstanding balance of the UAAL established in the December 31, 2009 valuation as a result of including additional premium pay items as pensionable salary and the new UAAL established in the December 31, 2010 valuation as a result of reallocating contributions and benefit payments among Rate Groups are also amortized over a 22-year period, in the December 31, 2012 valuation. Any increases or decreases in Unfunded Actuarial Accrued Liability that arise in future years due to actuarial gains or losses will be amortized over separate 15-year periods. Any increases or decreases in UAAL due to changes in actuarial assumptions are amortized over separate 30-year periods. Please note that for Probation members who have prior benefit service in another General OCERS plan, the normal cost rate for the current plan is calculated assuming their Entry Age is the date they entered service with their current plan.
Changes in Actuarial Assumptions:	Based on the Actuarial Experience Study and Review of Economic Actuarial Assumptions, the following assumptions were changed. Previously, these assumptions were as follows:
Net Investment Return:	7.75% net of investment and administrative expenses.
Consumer Price Index:	Increase of 3.50% per year, retiree COLA increases due to CPI subject to a 3.0% maximum change per year.

Changes in Actuarial Assumptions (continued):

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.50% per year, plus "across the board" salary increases of 0.25% per year, plus the following merit and promotion increases:

Years of Service	General	Safety
Less than 1	10.00%	14.00%
1	7.00	9.00
2	6.00	8.00
3	5.00	7.00
4	4.00	5.00
5	3.00	4.00
6	2.00	3.00
7	1.75	3.00
8	1.50	2.00
9	1.25	2.00
10	1.25	1.50
11	1.25	1.50
12	1.25	1.50
13	1.25	1.50
14	1.25	1.50
15	1.25	1.50
16	1.00	1.00
17	1.00	1.00
18	1.00	1.00
19	1.00	1.00
20 & over	1.00	1.00

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of the OCERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:	Membership with OCERS begins with the day of employment in an eligible position by the County or a participating employer.

Non-CalPEPRA General Plans

2.5% @ 55 Plans (Orange County Sanitation District and Law Library[1])

Plan G	General members hired before September 21, 1979.
Plan H	General members hired on or after September 21, 1979 (Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010 are in Plan B)

2.7% @ 55 Plans (City of San Juan Capistrano, Orange County Employees except bargaining unit AFSCME members, Orange County Superior Court, Orange County Local Agency Formation Commission[1], Orange County Employees Retirement System[2], Children and Family Commission[3] and Orange County Fire Authority)

Plan I	General members hired before September 21, 1979.
Plan J	General members hired on or after September 21, 1979.

[1] Improvement is prospective only for service after June 23, 2005.
[2] Improvement for management employees is prospective only for service after June 30, 2005.
[3] Improvement is prospective only for service after December 22, 2005.

2.0% @ 55 Plans (Transportation Corridor Agency, Cemetery District – future service effective December 7, 2007 and General OCFA employees effective July 1, 2011)

Plan M	General members hired before September 21, 1979.
Plan N	General members hired on or after September 21, 1979.

1.62% @ 65 Plans (Orange County Employees, Orange County Superior Court, Local Agency Formation Commission and County Managers unit)

Plan O	County OCEA members and Superior Court members rehired on or after May 7, 2010, LAFCO members rehired on or after July 1, 2010 and County Managers unit members rehired on or after August 17, 2010 and not electing to rejoin Plan I.
Plan P	County OCEA members and Superior Court members hired on or after May 7, 2010, LAFCO members hired on or after July 1, 2010 and County Managers unit members hired on or after August 17, 2010 and not electing Plan J.

2.0% @ 57 Plan (City of San Juan Capistrano)

Plan S	General members hired on or after July 1, 2012.

All Other General Employers

Plan A	General members hired before September 21, 1979.
Plan B	General members hired on or after September 21, 1979 and Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010

Non-CalPEPRA Safety Plans

3% @ 50 Plans (Law Enforcement, Fire Authority and Probation Members)

Plan E	Safety members hired before September 21, 1979.
Plan F	Safety members hired on or after September 21, 1979 and before April 9, 2010 for Law Enforcement, before July 1, 2011 for Safety employees of OCFA Executive Management, and before July 1, 2012 for other OCFA Safety employees.

3% @ 55 Plans (Law Enforcement, Fire Authority)

Plan Q	Safety Law Enforcement members rehired on or after April 9, 2010, Safety employees of OCFA Executive Management rehired on or after July 1, 2011, and other OCFA Safety employees rehired on or after July 1, 2012 and previously in Plan E.
Plan R	Safety Law Enforcement members hired on or after April 9, 2010, Safety employees of OCFA Executive Management hired on or after July 1, 2011, and other OCFA Safety employees hired on or after July 1, 2012.

CalPEPRA General Plans

1.62% @ 65 Plan (Orange County Employees except County Attorneys, Orange County Employees Retirement System except Management Employees, Children and Family Commission, Local Agency Formation Commission, and Orange County Superior Court)

Plan T	General members with membership dates on or after January 1, 2013.

2.5% @ 67 Plan (All Other General Employers, Orange County Attorneys, Orange County Employees Retirement System Management Employees)

Plan U	General members with membership dates on or after January 1, 2013.

CalPEPRA Safety Plans

2.7% @ 57 Plan (Law Enforcement, Fire Authority and Probation Members)

Plan V	Safety members with membership dates on or after January 1, 2013.

Final Compensation for Benefit Determination:

Plans A, E, G, I, M, O and Q	Highest consecutive twelve months of compensation earnable. (§31462.1) (FAS1)
Plans B, F, H, J, N, P, R and S	Highest consecutive thirty-six months of compensation earnable. (§31462) (FAS3)
Plans T, U and V	Highest consecutive thirty-six months of pensionable compensation. (§7522.10(c), §7522.32 and §7522.34) (FAS3)

Service:	Years of service. (Yrs)

Service Retirement Eligibility:

Plans A, B, G, H, I, J, M, N, O, P, S and T	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age. (§31672)
Plan U	Age 52 with 5 years of service. (§7522.20(a))
Plans E, F, Q and R	Age 50 with 10 years of service, or after 20 years, regardless of age. (§31663.25) All part time employees over age 55 with 10 years of employment may retire with 5 years of service.
Plan V	Age 50 with 5 years of service. (§7522.20(d))

Benefit Formula:

General Plans

2.5% @ 55	**Retirement Age**	**Benefit Formula**
Plan G (§31676.18)	50	(2.00% x FAS1 x Yrs)
	55	(2.50% x FAS1 x Yrs)
	60	(2.50% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)*
	65 or later	(2.62% x FAS1 x Yrs)*
Plan H (§31676.18)	50	(2.00% x FAS3 x Yrs)
	55	(2.50% x FAS3 x Yrs)
	60	(2.50% x FAS3 x Yrs)
	62	(2.50% x FAS3 x Yrs)
	65 or later	(2.50% x FAS3 x Yrs)

* *Reflects benefit factors from Plan A as they provide a better benefit than those under 2.5% @ 55.*

Benefit Formula (continued):

2.7% @ 55	**Retirement Age**	**Benefit Formula**
Plan I (§31676.19)	50	(2.00% x FAS1 x Yrs)
	55	(2.70% x FAS1 x Yrs)
	60	(2.70% x FAS1 x Yrs)
	62	(2.70% x FAS1 x Yrs)
	65 or later	(2.70% x FAS1 x Yrs)
Plan J (§31676.19)	50	(2.00% x FAS3 x Yrs)
	55	(2.70% x FAS3 x Yrs)
	60	(2.70% x FAS3 x Yrs)
	62	(2.70% x FAS3 x Yrs)
	65 or later	(2.70% x FAS3 x Yrs)

Benefit Formula (continued):

2.0% @ 55	**Retirement Age**	**Benefit Formula**
Plan M (§31676.16)	50	(1.43% x FAS1 x Yrs)
	55	(2.00% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)**
	62	(2.62% x FAS1 x Yrs)**
	65 or later	(2.62% x FAS1 x Yrs)**
Plan N (§31676.16)	50	(1.43% x FAS3 x Yrs)
	55	(2.00% x FAS3 x Yrs)
	60	(2.26% x FAS3 x Yrs)
	62	(2.37% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)***

** *Reflects benefit factors from Plan A as they provide a better benefit than those under 2.0% @ 55.*

*** *Reflects benefit factors from Plan B as they provide a better benefit than those under 2.0% @ 55.*

Benefit Formula (continued):

1.62% @ 65	**Retirement Age**	**Benefit Formula**
Plan O (§31676.01)	50	(0.79% x FAS1 x Yrs)
	55	(0.99% x FAS1 x Yrs)
	60	(1.28% x FAS1 x Yrs)
	62	(1.39% x FAS1 x Yrs)
	65 or later	(1.62% x FAS1 x Yrs)
Plan P and Plan T (§31676.01)	50	(0.79% x FAS3 x Yrs)
	55	(0.99% x FAS3 x Yrs)
	60	(1.28% x FAS3 x Yrs)
	62	(1.39% x FAS3 x Yrs)
	65 or later	(1.62% x FAS3 x Yrs)

Benefit Formula (continued):

	Retirement Age	Benefit Formula
2.0% @ 57		
Plan S (§31676.12)	50	(1.34% x FAS3 x Yrs)
	55	(1.77% x FAS3 x Yrs)
	60	(2.34% x FAS3 x Yrs)
	62	(2.62% x FAS3 x Yrs)
	65 or later	(2.62% x FAS3 x Yrs)

Benefit Formula (continued):

	Retirement Age	Benefit Formula
Plan A (§31676.12)	50	(1.34% x FAS1 x Yrs)
	55	(1.77% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)
	65 or later	(2.62% x FAS1 x Yrs)
Plan B (§31676.1)	50	(1.18% x FAS3 x Yrs)
	55	(1.49% x FAS3 x Yrs)
	60	(1.92% x FAS3 x Yrs)
	62	(2.09% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)
Plan U	52	(1.00% x FAS3 x Yrs)
(§7522.20(a))	55	(1.30% x FAS3 x Yrs)
	60	(1.80% x FAS3 x Yrs)
	62	(2.00% x FAS3 x Yrs)
	65	(2.30% x FAS3 x Yrs)
	67 or later	(2.50% x FAS3 x Yrs)

Benefit Formula (continued):

Safety Plans

3% @ 50	**Retirement Age**	**Benefit Formula**
Plan E (§31664.1)	50	(3.00% x FAS1 x Yrs)
	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
Plan F (§31664.1)	50	(3.00% x FAS3 x Yrs)
	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)
3% @ 55		
Plan Q (§31664.2)	50	(2.29% x FAS1 x Yrs)
	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
Plan R (§31664.2)	50	(2.29% x FAS3 x Yrs)
	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)
Plan V	50	(2.00% x FAS3 x Yrs)
(§7522.*25(d))*	55	(2.50% x FAS3 x Yrs)
	57 or later	(2.70% x FAS3 x Yrs)

Maximum Benefit:

Plans A, B, E, F, G, H, I, J, M, N, O, P, Q, R, S, and T	100% of Highest Average Compensation. (§31676.01, §31676.1, §31676.12, §31676.16, §31676.18, §31676.19, §31664.1, §31664.2)
Plans U and V	None.

Ordinary Disability:

General Plans

Plans A, B, G, H, I, J, M, N, O, P, S, T and U

Eligibility	Five years of service. (§31720)
Benefit Formula	Plans A, G, I, M and O: 1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. (§31727.1) Plans B, H, J, N, P, S, T and U: 1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation. (§31727)

Safety Plans

Plans E, F, Q, R and V

Eligibility	Five years of service. (§31720)
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation. (§31727.2) For all members, 100% of the Service Retirement benefit will be paid, if greater.

Line-of-Duty Disability:	
All Members	
Eligibility	No age or service requirements. (§31720)
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater. (§31727.4)
Pre-Retirement Death:	
All Members	
Eligibility	None.
Benefit	Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation. (§31781) A lump sum benefit in the amount of $1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)
Death in line of duty	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children. (§31787)
	OR
Vested Members	
Eligibility	Five years of service.
Benefit	60% of the greater of Service or Ordinary Disability Retirement benefit payable to eligible surviving spouse (§31765.1, §31781.1), in lieu of §31781.

Death After Retirement:	
All Members	
Service or Ordinary Disability Retirement	60% of member's unmodified allowance continued to eligible spouse. (§31760.1) A lump sum benefit in the amount of $1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790) An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement. (§31760.1)
Line-of-Duty Disability	100% of member's allowance continued to eligible spouse. (§31786) A lump sum benefit in the amount of $1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest or earned benefit at age 70. (§31628) Effective January 1, 2003, a member may also elect to leave contributions on deposit in the retirement fund. (§31629.5)
Five or More Years of Service	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire. (§31700)
Post-retirement Cost-of-Living Benefits:	Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked." (§31870.1)
Supplemental Benefit:	Non-vested supplemental COLA and medical benefits are also paid by the System to eligible retirees and survivors. These benefits have been excluded from this valuation.

Member Contributions:	Please refer to Appendix B for the specific rates.
Non-CalPEPRA General Plans	
Plan A	
Basic	Provide for an average annuity payable at age 60 equal to 1/200 of FAS1. (§31621.5)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plan B	
Basic	Provide for an average annuity payable at age 60 equal to 1/120 of FAS3. (§31621)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plans G, H, I and J	
Basic	Provide for an average annuity payable at age 55 equal to 1/100 of FAS3 (FAS1 for Plans G and I). (§31621.8)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plan M, N, O and P	
Basic	Provide for an average annuity payable at age 60 equal to 1/120 of FAS3 (FAS1 for Plans M and O). (§31621)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plan S	
Basic	Provide for an average annuity at age 60 equal to 1/100 of FAS3. (§31621.2)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.

Member Contributions (Continued):

Non-CalPEPRA Safety Plans

Plans E and Q	
Basic	Provide for an average annuity payable at age 50 equal to 1/200 FAS1. (§31639.5)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plans F and R	
Basic	Provide for an average annuity payable at age 50 equal to 1/100 of FAS3. (§31639.25)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.

CalPEPRA Plans

Plans T, U and V	50% of total Normal Cost rate.
Other Information:	Non-CalPEPRA Safety members with 30 or more years of service are exempt from paying member contributions. This also applies for General members hired on or before March 7, 1973.

NOTE: *The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so that both can be sure the proper provisions are valued.*

Appendix A
UAAL Amortization Schedule as of December 31, 2012

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
General Members						
Rate Group #1 – non-OCTA, non-OCSD – 2.0% at 57 and 1.6667% at 57.5						
	12/31/2004	Restart amortization	$44,613,000	22	$49,229,000	$3,221,000
	12/31/2005	Actuarial (gain) or loss	(3,774,000)	8	(2,916,000)	(424,000)
	12/31/2006	Actuarial (gain) or loss	2,619,000	9	2,159,000	283,000
	12/31/2007	Actuarial (gain) or loss	(4,903,000)	10	(4,257,000)	(511,000)
	12/31/2007	Assumption change	8,305,000	25	8,926,000	537,000
	12/31/2008	Actuarial (gain) or loss	10,802,000	11	9,783,000	1,084,000
	12/31/2009	Inclusion of Premium Pay	4,691,000	22	4,816,000	315,000
	12/31/2009	Actuarial (gain) or loss	14,681,000	12	13,757,000	1,420,000
	12/31/2010	Reallocation of assets	(9,260,000)	22	(9,409,000)	(616,000)
	12/31/2010	Actuarial (gain) or loss	(5,915,000)	13	(5,696,000)	(551,000)
	12/31/2011	Actuarial (gain) or loss	6,993,000	14	6,879,000	628,000
	12/31/2011	Assumption change	15,224,000	29	15,481,000	849,000
	12/31/2012	Actuarial (gain) or loss	4,280,000	15	4,280,000	370,000
	12/31/2012	Assumption change	23,668,000	30	23,668,000	1,272,000
Subtotal					$116,700,000	$7,877,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #2 – 2.7% at 55, 1.62% at 65 and 2.0% at 57						
	12/31/2004	Restart amortization	$1,303,159,000	22	$1,438,005,000	$94,081,000
	12/31/2005	Actuarial (gain) or loss	85,000,000	8	65,686,000	9,550,000
	12/31/2006	Actuarial (gain) or loss	(18,810,000)	9	(15,503,000)	(2,035,000)
	12/31/2007	Actuarial (gain) or loss	9,539,000	10	8,282,000	994,000
	12/31/2007	Assumption change	68,025,000	25	73,111,000	4,396,000
	12/31/2008	Actuarial (gain) or loss	215,870,000	11	195,513,000	21,671,000
	12/31/2008	Assumption change	106,699,000	26	113,318,000	6,645,000
	12/31/2009	Inclusion of Premium Pay	53,005,000	22	54,421,000	3,560,000
	12/31/2009	Actuarial (gain) or loss	193,173,000	12	181,013,000	18,680,000
	12/31/2010	Reallocation of assets	69,988,000	22	71,111,000	4,652,000
	12/31/2010	Actuarial (gain) or loss	25,794,000	13	24,837,000	2,403,000
	12/31/2011	Actuarial (gain) or loss	210,577,000	14	207,148,000	18,896,000
	12/31/2011	Assumption change	312,871,000	29	318,149,000	17,450,000
	12/31/2012	Actuarial (gain) or loss	176,465,000	15	176,465,000	15,255,000
	12/31/2012	Assumption change	531,427,000	30	531,427,000	28,572,000
Subtotal					$3,442,983,000	$244,770,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #3 – 2.5% at 55 and 1.64% at 57						
	12/31/2004	Restart amortization	$67,595,000	22	$74,589,000	$4,880,000
	12/31/2005	Actuarial (gain) or loss	9,864,000	8	7,623,000	1,108,000
	12/31/2006	Actuarial (gain) or loss	2,158,000	9	1,779,000	234,000
	12/31/2007	Actuarial (gain) or loss	(615,000)	10	(534,000)	(64,000)
	12/31/2007	Assumption change	7,781,000	25	8,363,000	503,000
	12/31/2008	Actuarial (gain) or loss	8,401,000	11	7,609,000	843,000
	12/31/2008	Assumption change	6,562,000	26	6,969,000	409,000
	12/31/2009	Inclusion of Premium Pay	8,458,000	22	8,684,000	568,000
	12/31/2009	Actuarial (gain) or loss	8,728,000	12	8,179,000	844,000
	12/31/2010	Reallocation of assets	(4,134,000)	22	(4,200,000)	(275,000)
	12/31/2010	Actuarial (gain) or loss	15,234,000	13	14,669,000	1,419,000
	12/31/2011	Actuarial (gain) or loss	19,474,000	14	19,157,000	1,748,000
	12/31/2011	Assumption change	15,300,000	29	15,558,000	853,000
	12/31/2012	Actuarial (gain) or loss	13,879,000	15	13,879,000	1,200,000
	12/31/2012	Assumption change	32,179,000	30	32,179,000	1,730,000
Subtotal					$214,503,000	$16,000,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #5 – OCTA – 2.0% at 57 and 1.6667% at 57.5						
	12/31/2004	Restart amortization	$70,302,000	22	$77,577,000	$5,075,000
	12/31/2005	Actuarial (gain) or loss	1,340,000	8	1,036,000	151,000
	12/31/2006	Actuarial (gain) or loss	(5,778,000)	9	(4,762,000)	(625,000)
	12/31/2007	Actuarial (gain) or loss	(12,467,000)	10	(10,825,000)	(1,299,000)
	12/31/2007	Assumption change	11,504,000	25	12,364,000	743,000
	12/31/2008	Actuarial (gain) or loss	24,594,000	11	22,275,000	2,469,000
	12/31/2009	Inclusion of Premium Pay	26,400,000	22	27,105,000	1,773,000
	12/31/2009	Actuarial (gain) or loss	22,306,000	12	20,902,000	2,157,000
	12/31/2010	Reallocation of assets	95,000	22	97,000	6,000
	12/31/2010	Actuarial (gain) or loss	(2,073,000)	13	(1,996,000)	(193,000)
	12/31/2011	Actuarial (gain) or loss	20,064,000	14	19,737,000	1,800,000
	12/31/2011	Assumption change	19,530,000	29	19,859,000	1,089,000
	12/31/2012	Actuarial (gain) or loss	5,904,000	15	5,904,000	510,000
	12/31/2012	Assumption change	42,963,000	30	42,963,000	2,310,000
Subtotal					$232,236,000	$15,966,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #9 – TCA – 2.0% at 55						
	12/31/2004	Restart amortization	$6,061,000	22	$6,688,000	$438,000
	12/31/2005	Actuarial (gain) or loss	(250,000)	8	(193,000)	(28,000)
	12/31/2006	Actuarial (gain) or loss	(319,000)	9	(263,000)	(35,000)
	12/31/2007	Actuarial (gain) or loss	(149,000)	10	(129,000)	(15,000)
	12/31/2007	Assumption change	312,000	25	335,000	20,000
	12/31/2008	Actuarial (gain) or loss	578,000	11	523,000	58,000
	12/31/2008	Assumption change	172,000	26	183,000	11,000
	12/31/2009	Inclusion of Premium Pay	697,000	22	716,000	47,000
	12/31/2009	Actuarial (gain) or loss	1,071,000	12	1,004,000	104,000
	12/31/2010	Reallocation of assets	436,000	22	443,000	29,000
	12/31/2010	Actuarial (gain) or loss	(496,000)	13	(478,000)	(46,000)
	12/31/2011	Actuarial (gain) or loss	(350,000)	14	(344,000)	(31,000)
	12/31/2011	Assumption change	908,000	29	923,000	51,000
	12/31/2012	Actuarial (gain) or loss	535,000	15	535,000	46,000
	12/31/2012	Assumption change	1,879,000	30	1,879,000	101,000
Subtotal					$11,822,000	$750,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #10 – OCFA – 2.7% at 55 and 2.0% at 55						
	12/31/2004	Restart amortization	$28,348,000	22	$31,281,000	$2,047,000
	12/31/2005	Actuarial (gain) or loss	1,849,000	8	1,429,000	208,000
	12/31/2006	Actuarial (gain) or loss	4,362,000	9	3,595,000	472,000
	12/31/2007	Actuarial (gain) or loss	(3,010,000)	10	(2,613,000)	(314,000)
	12/31/2007	Assumption change	2,975,000	25	3,197,000	192,000
	12/31/2008	Actuarial (gain) or loss	1,347,000	11	1,220,000	135,000
	12/31/2008	Assumption change	2,318,000	26	2,462,000	144,000
	12/31/2009	Inclusion of Premium Pay	2,955,000	22	3,034,000	198,000
	12/31/2009	Actuarial (gain) or loss	3,276,000	12	3,070,000	317,000
	12/31/2010	Reallocation of assets	(883,000)	22	(897,000)	(59,000)
	12/31/2010	Actuarial (gain) or loss	803,000	13	773,000	75,000
	12/31/2011	Actuarial (gain) or loss	7,465,000	14	7,343,000	670,000
	12/31/2011	Assumption change	4,710,000	29	4,789,000	263,000
	12/31/2012	Actuarial (gain) or loss	3,389,000	15	3,389,000	293,000
	12/31/2012	Assumption change	10,816,000	30	10,816,000	582,000
Subtotal					$72,888,000	$5,223,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #11 – Cemetery District – 2.0% at 55 future service						
	12/31/2004	Restart amortization	$679,000	22	$749,000	$49,000
	12/31/2005	Actuarial (gain) or loss	(62,000)	8	(48,000)	(7,000)
	12/31/2006	Actuarial (gain) or loss	43,000	9	35,000	5,000
	12/31/2007	Actuarial (gain) or loss	83,000	10	72,000	9,000
	12/31/2007	Assumption change	25,000	25	27,000	2,000
	12/31/2008	Actuarial (gain) or loss	212,000	11	192,000	21,000
	12/31/2008	Assumption change	13,000	26	14,000	1,000
	12/31/2009	Inclusion of Premium Pay	9,000	22	9,000	1,000
	12/31/2009	Actuarial (gain) or loss	(37,000)	12	(35,000)	(4,000)
	12/31/2010	Reallocation of assets	(97,000)	22	(99,000)	(6,000)
	12/31/2010	Actuarial (gain) or loss	110,000	13	106,000	10,000
	12/31/2011	Actuarial (gain) or loss	104,000	14	102,000	9,000
	12/31/2011	Assumption change	217,000	29	221,000	12,000
	12/31/2012	Actuarial (gain) or loss	193,000	15	193,000	17,000
	12/31/2012	Assumption change	443,000	30	443,000	24,000
Subtotal					$1,981,000	$143,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Safety Members						
Rate Group #6 – Probation Officers – 3.0% at 50						
	12/31/2004	Restart amortization	$82,839,000	22	$91,411,000	$5,981,000
	12/31/2005	Actuarial (gain) or loss	10,520,000	8	8,130,000	1,182,000
	12/31/2006	Actuarial (gain) or loss	2,531,000	9	2,086,000	274,000
	12/31/2007	Actuarial (gain) or loss	(1,866,000)	10	(1,620,000)	(194,000)
	12/31/2007	Assumption change	12,945,000	25	13,913,000	837,000
	12/31/2008	Actuarial (gain) or loss	13,162,000	11	11,921,000	1,321,000
	12/31/2009	Inclusion of Premium Pay	1,793,000	22	1,841,000	120,000
	12/31/2009	Actuarial (gain) or loss	4,017,000	12	3,764,000	388,000
	12/31/2010	Reallocation of assets	8,698,000	22	8,838,000	578,000
	12/31/2010	Actuarial (gain) or loss	(404,000)	13	(389,000)	(38,000)
	12/31/2011	Actuarial (gain) or loss	7,523,000	14	7,401,000	675,000
	12/31/2011	Assumption change	75,000	29	76,000	4,000
	12/31/2012	Actuarial (gain) or loss	6,223,000	15	6,223,000	538,000
	12/31/2012	Assumption change	39,650,000	30	39,650,000	2,132,000
Subtotal					$193,245,000	$13,798,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #7 – Law Enforcement – 3.0% at 50 and 3.0% at 55						
	12/31/2004	Restart amortization	$409,515,000	22	$451,890,000	$29,565,000
	12/31/2005	Actuarial (gain) or loss	1,092,000	8	844,000	123,000
	12/31/2006	Actuarial (gain) or loss	(18,681,000)	9	(15,396,000)	(2,021,000)
	12/31/2007	Actuarial (gain) or loss	(5,815,000)	10	(5,049,000)	(606,000)
	12/31/2007	Assumption change	88,601,000	25	95,226,000	5,725,000
	12/31/2008	Actuarial (gain) or loss	94,542,000	11	85,626,000	9,491,000
	12/31/2009	Inclusion of Premium Pay	67,939,000	22	69,754,000	4,564,000
	12/31/2009	Actuarial (gain) or loss	46,476,000	12	43,551,000	4,494,000
	12/31/2010	Reallocation of assets	(21,907,000)	22	(22,258,000)	(1,456,000)
	12/31/2010	Actuarial (gain) or loss	5,638,000	13	5,429,000	525,000
	12/31/2011	Actuarial (gain) or loss	42,226,000	14	41,538,000	3,789,000
	12/31/2011	Assumption change	7,424,000	29	7,549,000	414,000
	12/31/2012	Actuarial (gain) or loss	52,532,000	15	52,532,000	4,541,000
	12/31/2012	Assumption change	177,182,000	30	177,182,000	9,526,000
Subtotal					$988,418,000	$68,674,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #8 – Fire Authority – 3.0% at 50 and 3.0% at 55						
	12/31/2004	Restart amortization	$144,849,000	22	$159,837,000	$10,457,000
	12/31/2005	Actuarial (gain) or loss	2,796,000	8	2,161,000	314,000
	12/31/2006	Actuarial (gain) or loss	(4,791,000)	9	(3,949,000)	(518,000)
	12/31/2007	Actuarial (gain) or loss	2,047,000	10	1,777,000	213,000
	12/31/2007	Assumption change	36,674,000	25	39,416,000	2,370,000
	12/31/2008	Actuarial (gain) or loss	44,714,000	11	40,497,000	4,489,000
	12/31/2009	Inclusion of Premium Pay	79,778,000	22	81,909,000	5,359,000
	12/31/2009	Actuarial (gain) or loss	27,735,000	12	25,989,000	2,682,000
	12/31/2010	Reallocation of assets	(42,936,000)	22	(43,625,000)	(2,854,000)
	12/31/2010	Actuarial (gain) or loss	(5,353,000)	13	(5,154,000)	(499,000)
	12/31/2011	Actuarial (gain) or loss	20,158,000	14	19,830,000	1,809,000
	12/31/2011	Assumption change	(12,419,000)	29	(12,629,000)	(693,000)
	12/31/2012	Actuarial (gain) or loss	20,435,000	15	20,435,000	1,767,000
	12/31/2012	Assumption change	74,410,000	30	74,410,000	4,001,000
Subtotal					$400,904,000	$28,897,000

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
All Rate Groups Combined						
	12/31/2004	Restart amortization	$2,158,151,000	22	$2,381,467,000	$155,808,000
	12/31/2005	Actuarial (gain) or loss	108,449,000	8	83,809,000	12,185,000
	12/31/2006	Actuarial (gain) or loss	(36,936,000)	9	(30,442,000)	(3,995,000)
	12/31/2007	Actuarial (gain) or loss	(17,161,000)	10	(14,900,000)	(1,787,000)
	12/31/2007	Assumption change	237,147,000	25	254,878,000	15,325,000
	12/31/2008	Actuarial (gain) or loss	414,215,000	11	375,153,000	41,581,000
	12/31/2008	Assumption change	115,764,000	26	122,946,000	7,210,000
	12/31/2009	Inclusion of Premium Pay	245,725,000	22	252,289,000	16,505,000
	12/31/2009	Actuarial (gain) or loss	321,419,000	12	301,187,000	31,081,000
	12/31/2010	Reallocation of assets	0	22	1,000*	(1,000)*
	12/31/2010	Actuarial (gain) or loss	33,331,000	13	32,094,000	3,104,000
	12/31/2011	Actuarial (gain) or loss	334,222,000	14	328,779,000	29,992,000
	12/31/2011	Assumption change	363,842,000	29	369,978,000	20,292,000
	12/31/2012	Actuarial (gain) or loss	283,822,000	15	283,822,000	24,536,000
	12/31/2012	Assumption change	934,619,000	30	934,619,000	50,250,000
Grand Total					$5,675,680,000	$402,086,000

Note that the current equivalent single amortization period for the System's UAAL is between 19 and 20 years.

* These amounts are not $0 due to rounding.

Appendix B
Member Contribution Rates

General Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan I (2.7% @ 55 Non-OCFA)		Plan G (2.5% @ 55)		Plan M (2.0% @ 55)*		Plan A (OCTA)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total
15	7.48%	10.42%	7.48%	10.27%	5.45%	7.90%	3.27%	5.44%
16	7.48%	10.42%	7.48%	10.27%	5.45%	7.90%	3.27%	5.44%
17	7.59%	10.57%	7.59%	10.42%	5.53%	8.01%	3.32%	5.52%
18	7.70%	10.72%	7.70%	10.57%	5.61%	8.12%	3.36%	5.60%
19	7.81%	10.88%	7.81%	10.72%	5.69%	8.24%	3.41%	5.68%
20	7.92%	11.03%	7.92%	10.87%	5.77%	8.36%	3.46%	5.76%
21	8.03%	11.19%	8.03%	11.03%	5.85%	8.48%	3.51%	5.84%
22	8.15%	11.35%	8.15%	11.19%	5.93%	8.60%	3.56%	5.93%
23	8.26%	11.51%	8.26%	11.35%	6.02%	8.72%	3.61%	6.01%
24	8.38%	11.68%	8.38%	11.51%	6.10%	8.85%	3.66%	6.10%
25	8.50%	11.84%	8.50%	11.67%	6.19%	8.97%	3.72%	6.18%
26	8.62%	12.01%	8.62%	11.84%	6.28%	9.10%	3.77%	6.27%
27	8.75%	12.19%	8.75%	12.01%	6.37%	9.23%	3.82%	6.36%
28	8.87%	12.36%	8.87%	12.18%	6.46%	9.36%	3.88%	6.45%
29	9.00%	12.54%	9.00%	12.36%	6.55%	9.49%	3.93%	6.55%
30	9.13%	12.72%	9.13%	12.54%	6.65%	9.63%	3.99%	6.64%
31	9.27%	12.91%	9.27%	12.72%	6.74%	9.77%	4.05%	6.73%
32	9.40%	13.10%	9.40%	12.91%	6.84%	9.91%	4.10%	6.83%
33	9.54%	13.30%	9.54%	13.10%	6.94%	10.05%	4.16%	6.93%
34	9.69%	13.50%	9.69%	13.30%	7.04%	10.20%	4.22%	7.03%
35	9.83%	13.70%	9.83%	13.50%	7.14%	10.35%	4.28%	7.13%
36	9.99%	13.91%	9.99%	13.71%	7.25%	10.50%	4.35%	7.24%
37	10.14%	14.13%	10.14%	13.93%	7.35%	10.65%	4.41%	7.34%
38	10.31%	14.36%	10.31%	14.15%	7.46%	10.81%	4.48%	7.45%
39	10.45%	14.56%	10.45%	14.35%	7.57%	10.98%	4.54%	7.57%

General Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan I (2.7% @ 55 Non-OCFA)		Plan G (2.5% @ 55)		Plan M (2.0% @ 55)*		Plan A (OCTA)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total
40	10.60%	14.77%	10.60%	14.56%	7.69%	11.14%	4.61%	7.68%
41	10.76%	14.99%	10.76%	14.77%	7.81%	11.31%	4.69%	7.80%
42	10.92%	15.22%	10.92%	15.00%	7.93%	11.49%	4.76%	7.92%
43	11.10%	15.46%	11.10%	15.24%	8.06%	11.68%	4.84%	8.05%
44	11.28%	15.72%	11.28%	15.49%	8.17%	11.84%	4.90%	8.16%
45	11.49%	16.00%	11.49%	15.77%	8.29%	12.01%	4.97%	8.28%
46	11.68%	16.28%	11.68%	16.04%	8.41%	12.19%	5.05%	8.40%
47	11.88%	16.55%	11.88%	16.31%	8.54%	12.37%	5.12%	8.53%
48	12.08%	16.82%	12.08%	16.58%	8.68%	12.57%	5.21%	8.67%
49	12.20%	17.00%	12.20%	16.75%	8.82%	12.78%	5.29%	8.81%
50	12.26%	17.07%	12.26%	16.83%	8.98%	13.01%	5.39%	8.97%
51	12.24%	17.05%	12.24%	16.80%	9.13%	13.24%	5.48%	9.12%
52	12.16%	16.93%	12.16%	16.69%	9.29%	13.46%	5.57%	9.28%
53	12.02%	16.74%	12.02%	16.50%	9.44%	13.68%	5.67%	9.43%
54	11.68%	16.27%	11.68%	16.03%	9.54%	13.82%	5.72%	9.53%
55	11.68%	16.27%	11.68%	16.03%	9.58%	13.88%	5.75%	9.57%
56	11.68%	16.27%	11.68%	16.03%	9.57%	13.87%	5.74%	9.56%
57	11.68%	16.27%	11.68%	16.03%	9.50%	13.77%	5.70%	9.49%
58	11.68%	16.27%	11.68%	16.03%	9.40%	13.62%	5.64%	9.39%
59	11.68%	16.27%	11.68%	16.03%	9.13%	13.23%	5.48%	9.12%
60	11.68%	16.27%	11.68%	16.03%	9.13%	13.23%	5.48%	9.12%
COLA Loading:		*39.32%*		*37.31%*		*44.89%*		*66.48%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

* Payable by members in Rate Group #9 and Rate Group #11.

SEGAL

General Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan A (Non-OCTA)		Plan I (2.7% @ 55 OCFA)	
Entry Age	Normal	Total	Normal	Total
15	3.27%	5.26%	7.48%	10.45%
16	3.27%	5.26%	7.48%	10.45%
17	3.32%	5.34%	7.59%	10.60%
18	3.36%	5.42%	7.70%	10.75%
19	3.41%	5.49%	7.81%	10.91%
20	3.46%	5.57%	7.92%	11.06%
21	3.51%	5.65%	8.03%	11.22%
22	3.56%	5.73%	8.15%	11.38%
23	3.61%	5.81%	8.26%	11.54%
24	3.66%	5.90%	8.38%	11.71%
25	3.72%	5.98%	8.50%	11.88%
26	3.77%	6.07%	8.62%	12.05%
27	3.82%	6.15%	8.75%	12.22%
28	3.88%	6.24%	8.87%	12.40%
29	3.93%	6.33%	9.00%	12.58%
30	3.99%	6.42%	9.13%	12.76%
31	4.05%	6.51%	9.27%	12.95%
32	4.10%	6.61%	9.40%	13.14%
33	4.16%	6.70%	9.54%	13.33%
34	4.22%	6.80%	9.69%	13.53%
35	4.28%	6.90%	9.83%	13.74%
36	4.35%	7.00%	9.99%	13.95%
37	4.41%	7.10%	10.14%	14.17%
38	4.48%	7.21%	10.31%	14.40%
39	4.54%	7.32%	10.45%	14.60%
40	4.61%	7.43%	10.60%	14.81%
41	4.69%	7.54%	10.76%	15.03%
42	4.76%	7.66%	10.92%	15.26%

General Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan A (Non-OCTA)		Plan I (2.7% @ 55 OCFA)	
Entry Age	Normal	Total	Normal	Total
43	4.84%	7.79%	11.10%	15.50%
44	4.90%	7.89%	11.28%	15.76%
45	4.97%	8.01%	11.49%	16.04%
46	5.05%	8.13%	11.68%	16.32%
47	5.12%	8.25%	11.88%	16.59%
48	5.21%	8.38%	12.08%	16.87%
49	5.29%	8.52%	12.20%	17.05%
50	5.39%	8.68%	12.26%	17.12%
51	5.48%	8.83%	12.24%	17.10%
52	5.57%	8.97%	12.16%	16.98%
53	5.67%	9.12%	12.02%	16.79%
54	5.72%	9.22%	11.68%	16.31%
55	5.75%	9.26%	11.68%	16.31%
56	5.74%	9.25%	11.68%	16.31%
57	5.70%	9.18%	11.68%	16.31%
58	5.64%	9.08%	11.68%	16.31%
59	5.48%	8.82%	11.68%	16.31%
60	5.48%	8.82%	11.68%	16.31%
COLA Loading:		*61.02%*		*39.70%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

General Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan J (2.7% @ 55 non-OCFA)		Plan H (2.5% @ 55)		Plan N (2.0% @ 55)*		Plan B (OCTA)		Plan B (non-OCTA, non-OCSD)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total	Normal	Total
15	7.15%	9.96%	7.15%	9.81%	5.21%	7.54%	5.21%	7.28%	5.21%	7.11%
16	7.15%	9.96%	7.15%	9.81%	5.21%	7.54%	5.21%	7.28%	5.21%	7.11%
17	7.25%	10.10%	7.25%	9.96%	5.28%	7.65%	5.28%	7.39%	5.28%	7.21%
18	7.35%	10.24%	7.35%	10.10%	5.36%	7.76%	5.36%	7.49%	5.36%	7.32%
19	7.46%	10.39%	7.46%	10.24%	5.43%	7.87%	5.43%	7.60%	5.43%	7.42%
20	7.56%	10.54%	7.56%	10.39%	5.51%	7.98%	5.51%	7.71%	5.51%	7.53%
21	7.67%	10.69%	7.67%	10.54%	5.59%	8.10%	5.59%	7.82%	5.59%	7.64%
22	7.78%	10.84%	7.78%	10.69%	5.67%	8.21%	5.67%	7.93%	5.67%	7.74%
23	7.89%	11.00%	7.89%	10.84%	5.75%	8.33%	5.75%	8.04%	5.75%	7.86%
24	8.01%	11.15%	8.01%	10.99%	5.83%	8.45%	5.83%	8.16%	5.83%	7.97%
25	8.12%	11.31%	8.12%	11.15%	5.92%	8.57%	5.92%	8.27%	5.92%	8.08%
26	8.24%	11.48%	8.24%	11.31%	6.00%	8.69%	6.00%	8.39%	6.00%	8.20%
27	8.36%	11.64%	8.36%	11.47%	6.09%	8.82%	6.09%	8.51%	6.09%	8.31%
28	8.48%	11.81%	8.48%	11.64%	6.17%	8.94%	6.17%	8.63%	6.17%	8.43%
29	8.60%	11.98%	8.60%	11.81%	6.26%	9.07%	6.26%	8.76%	6.26%	8.55%
30	8.73%	12.16%	8.73%	11.98%	6.35%	9.20%	6.35%	8.88%	6.35%	8.67%
31	8.85%	12.33%	8.85%	12.16%	6.44%	9.33%	6.44%	9.01%	6.44%	8.80%
32	8.98%	12.52%	8.98%	12.34%	6.53%	9.47%	6.53%	9.14%	6.53%	8.93%
33	9.12%	12.70%	9.12%	12.52%	6.63%	9.60%	6.63%	9.27%	6.63%	9.06%
34	9.25%	12.89%	9.25%	12.71%	6.72%	9.74%	6.72%	9.41%	6.72%	9.19%
35	9.40%	13.09%	9.40%	12.90%	6.82%	9.89%	6.82%	9.54%	6.82%	9.32%
36	9.54%	13.29%	9.54%	13.10%	6.92%	10.03%	6.92%	9.68%	6.92%	9.46%
37	9.68%	13.49%	9.68%	13.30%	7.02%	10.18%	7.02%	9.83%	7.02%	9.60%
38	9.82%	13.69%	9.82%	13.49%	7.13%	10.33%	7.13%	9.97%	7.13%	9.74%
39	9.96%	13.88%	9.96%	13.68%	7.24%	10.49%	7.24%	10.12%	7.24%	9.89%
40	10.10%	14.08%	10.10%	13.87%	7.35%	10.64%	7.35%	10.28%	7.35%	10.04%
41	10.25%	14.28%	10.25%	14.08%	7.46%	10.81%	7.46%	10.44%	7.46%	10.19%
42	10.41%	14.50%	10.41%	14.29%	7.57%	10.97%	7.57%	10.59%	7.57%	10.34%

General Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan J (2.7% @ 55 non-OCFA)		Plan H (2.5% @ 55)		Plan N (2.0% @ 55)*		Plan B (OCTA)		Plan B (non-OCTA, non-OCSD)	
Entry Age	Normal	Total	Normal	Normal	Normal	Total	Normal	Total	Normal	Total
43	10.58%	14.73%	10.58%	14.52%	7.68%	11.13%	7.68%	10.75%	7.68%	10.49%
44	10.75%	14.97%	10.75%	14.75%	7.79%	11.28%	7.79%	10.90%	7.79%	10.64%
45	10.91%	15.20%	10.91%	14.99%	7.90%	11.45%	7.90%	11.05%	7.90%	10.79%
46	11.08%	15.43%	11.08%	15.21%	8.02%	11.62%	8.02%	11.21%	8.02%	10.95%
47	11.21%	15.62%	11.21%	15.39%	8.14%	11.79%	8.14%	11.39%	8.14%	11.12%
48	11.30%	15.74%	11.30%	15.51%	8.27%	11.98%	8.27%	11.57%	8.27%	11.30%
49	11.31%	15.76%	11.31%	15.53%	8.40%	12.17%	8.40%	11.75%	8.40%	11.48%
50	11.26%	15.69%	11.26%	15.47%	8.53%	12.36%	8.53%	11.94%	8.53%	11.66%
51	11.15%	15.54%	11.15%	15.31%	8.66%	12.55%	8.66%	12.12%	8.66%	11.83%
52	10.93%	15.22%	10.93%	15.00%	8.77%	12.70%	8.77%	12.26%	8.77%	11.97%
53	11.29%	15.73%	11.29%	15.51%	8.83%	12.80%	8.83%	12.36%	8.83%	12.07%
54	11.68%	16.27%	11.68%	16.03%	8.85%	12.82%	8.85%	12.37%	8.85%	12.08%
55	11.68%	16.27%	11.68%	16.03%	8.81%	12.76%	8.81%	12.32%	8.81%	12.03%
56	11.68%	16.27%	11.68%	16.03%	8.72%	12.64%	8.72%	12.20%	8.72%	11.91%
57	11.68%	16.27%	11.68%	16.03%	8.54%	12.38%	8.54%	11.95%	8.54%	11.67%
58	11.68%	16.27%	11.68%	16.03%	8.83%	12.79%	8.83%	12.35%	8.83%	12.06%
59	11.68%	16.27%	11.68%	16.03%	9.13%	13.23%	9.13%	12.77%	9.13%	12.47%
60	11.68%	16.27%	11.68%	16.03%	9.13%	13.23%	9.13%	12.77%	9.13%	12.47%
COLA Loading:		*39.32%*		*37.31%*		*44.89%*		*39.89%*		*36.61%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

* Payable by members in Rate Group #9 and Rate Group #11.

General Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan J (2.7% @ 55 OCFA)		Plan P (1.62% @ 65)		Plan B (OCSD)		Plan N (OCFA)		Plan S (City of SJC)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total	Normal	Total
15	7.15%	9.99%	5.21%	6.56%	5.21%	7.23%	5.21%	7.59%	6.25%	8.67%
16	7.15%	9.99%	5.21%	6.56%	5.21%	7.23%	5.21%	7.59%	6.25%	8.67%
17	7.25%	10.13%	5.28%	6.65%	5.28%	7.34%	5.28%	7.70%	6.34%	8.80%
18	7.35%	10.27%	5.36%	6.74%	5.36%	7.44%	5.36%	7.81%	6.43%	8.92%
19	7.46%	10.42%	5.43%	6.84%	5.43%	7.55%	5.43%	7.92%	6.52%	9.05%
20	7.56%	10.57%	5.51%	6.94%	5.51%	7.66%	5.51%	8.04%	6.61%	9.18%
21	7.67%	10.72%	5.59%	7.04%	5.59%	7.77%	5.59%	8.15%	6.71%	9.31%
22	7.78%	10.87%	5.67%	7.14%	5.67%	7.88%	5.67%	8.27%	6.80%	9.44%
23	7.89%	11.03%	5.75%	7.24%	5.75%	7.99%	5.75%	8.39%	6.90%	9.58%
24	8.01%	11.18%	5.83%	7.34%	5.83%	8.10%	5.83%	8.51%	7.00%	9.71%
25	8.12%	11.35%	5.92%	7.45%	5.92%	8.22%	5.92%	8.63%	7.10%	9.85%
26	8.24%	11.51%	6.00%	7.56%	6.00%	8.34%	6.00%	8.75%	7.20%	9.99%
27	8.36%	11.67%	6.09%	7.66%	6.09%	8.46%	6.09%	8.88%	7.30%	10.14%
28	8.48%	11.84%	6.17%	7.77%	6.17%	8.58%	6.17%	9.00%	7.41%	10.28%
29	8.60%	12.01%	6.26%	7.88%	6.26%	8.70%	6.26%	9.13%	7.51%	10.43%
30	8.73%	12.19%	6.35%	8.00%	6.35%	8.82%	6.35%	9.26%	7.62%	10.58%
31	8.85%	12.37%	6.44%	8.11%	6.44%	8.95%	6.44%	9.40%	7.73%	10.73%
32	8.98%	12.55%	6.53%	8.23%	6.53%	9.08%	6.53%	9.53%	7.84%	10.88%
33	9.12%	12.74%	6.63%	8.35%	6.63%	9.21%	6.63%	9.67%	7.95%	11.04%
34	9.25%	12.93%	6.72%	8.47%	6.72%	9.35%	6.72%	9.81%	8.07%	11.20%
35	9.40%	13.13%	6.82%	8.59%	6.82%	9.48%	6.82%	9.95%	8.19%	11.36%
36	9.54%	13.33%	6.92%	8.72%	6.92%	9.62%	6.92%	10.10%	8.31%	11.53%
37	9.68%	13.53%	7.02%	8.85%	7.02%	9.76%	7.02%	10.25%	8.43%	11.70%
38	9.82%	13.72%	7.13%	8.98%	7.13%	9.91%	7.13%	10.40%	8.56%	11.87%
39	9.96%	13.92%	7.24%	9.11%	7.24%	10.06%	7.24%	10.56%	8.68%	12.05%
40	10.10%	14.11%	7.35%	9.25%	7.35%	10.21%	7.35%	10.72%	8.82%	12.24%
41	10.25%	14.32%	7.46%	9.39%	7.46%	10.37%	7.46%	10.88%	8.95%	12.43%
42	10.41%	14.54%	7.57%	9.54%	7.57%	10.52%	7.57%	11.04%	9.09%	12.61%

General Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan J (2.7% @ 55 OCFA)		Plan P (1.62% @ 65)		Plan B (OCSD)		Plan N (OCFA)		Plan S (City of SJC)	
Entry Age	Normal	Total	Normal	Normal	Normal	Total	Normal	Total	Normal	Total
43	10.58%	14.77%	7.68%	9.67%	7.68%	10.67%	7.68%	11.20%	9.22%	12.79%
44	10.75%	15.01%	7.79%	9.81%	7.79%	10.82%	7.79%	11.36%	9.35%	12.97%
45	10.91%	15.25%	7.90%	9.95%	7.90%	10.98%	7.90%	11.52%	9.48%	13.16%
46	11.08%	15.47%	8.02%	10.10%	8.02%	11.14%	8.02%	11.69%	9.62%	13.35%
47	11.21%	15.66%	8.14%	10.25%	8.14%	11.31%	8.14%	11.87%	9.77%	13.56%
48	11.30%	15.78%	8.27%	10.41%	8.27%	11.49%	8.27%	12.06%	9.92%	13.77%
49	11.31%	15.80%	8.40%	10.58%	8.40%	11.68%	8.40%	12.26%	10.08%	13.99%
50	11.26%	15.74%	8.53%	10.75%	8.53%	11.86%	8.53%	12.45%	10.24%	14.21%
51	11.15%	15.58%	8.66%	10.91%	8.66%	12.04%	8.66%	12.63%	10.39%	14.42%
52	10.93%	15.26%	8.77%	11.04%	8.77%	12.18%	8.77%	12.79%	10.52%	14.60%
53	11.29%	15.78%	8.83%	11.12%	8.83%	12.27%	8.83%	12.88%	10.60%	14.71%
54	11.68%	16.31%	8.85%	11.14%	8.85%	12.29%	8.85%	12.90%	10.62%	14.73%
55	11.68%	16.31%	8.81%	11.09%	8.81%	12.24%	8.81%	12.85%	10.57%	14.67%
56	11.68%	16.31%	8.72%	10.98%	8.72%	12.12%	8.72%	12.72%	10.47%	14.53%
57	11.68%	16.31%	8.54%	10.76%	8.54%	11.87%	8.54%	12.46%	10.25%	14.23%
58	11.68%	16.31%	8.83%	11.12%	8.83%	12.27%	8.83%	12.88%	10.60%	14.71%
59	11.68%	16.31%	9.13%	11.50%	9.13%	12.69%	9.13%	13.32%	10.96%	15.21%
60	11.68%	16.31%	9.13%	11.50%	9.13%	12.69%	9.13%	13.32%	10.96%	15.21%
COLA Loading:		*39.70%*		*25.93%*		*38.97%*		*45.87%*		*38.80%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

General CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Rate Group 1 – Plan U		Rate Group 2 – Plan T		Rate Group 2 – Plan U		Rate Group 3 – Plan U	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total
15	5.66%	7.75%	3.70%	5.00%	4.49%	6.00%	5.65%	7.75%
16	5.66%	7.75%	3.70%	5.00%	4.49%	6.00%	5.65%	7.75%
17	5.48%	7.50%	3.89%	5.25%	4.30%	5.75%	5.29%	7.25%
18	5.11%	7.00%	3.89%	5.25%	4.12%	5.50%	5.11%	7.00%
19	5.11%	7.00%	3.89%	5.25%	4.12%	5.50%	5.11%	7.00%
20	5.29%	7.25%	4.08%	5.50%	4.30%	5.75%	5.29%	7.25%
21	5.29%	7.25%	4.08%	5.50%	4.30%	5.75%	5.29%	7.25%
22	5.48%	7.50%	4.08%	5.50%	4.30%	5.75%	5.29%	7.25%
23	5.48%	7.50%	4.08%	5.50%	4.49%	6.00%	5.47%	7.50%
24	5.48%	7.50%	4.26%	5.75%	4.49%	6.00%	5.47%	7.50%
25	5.66%	7.75%	4.26%	5.75%	4.68%	6.25%	5.65%	7.75%
26	5.66%	7.75%	4.26%	5.75%	4.68%	6.25%	5.65%	7.75%
27	5.84%	8.00%	4.44%	6.00%	4.86%	6.50%	5.84%	8.00%
28	5.84%	8.00%	4.44%	6.00%	4.86%	6.50%	5.84%	8.00%
29	6.03%	8.25%	4.44%	6.00%	5.05%	6.75%	6.01%	8.25%
30	6.03%	8.25%	4.63%	6.25%	5.05%	6.75%	6.01%	8.25%
31	6.21%	8.50%	4.63%	6.25%	5.24%	7.00%	6.01%	8.25%
32	6.21%	8.50%	4.82%	6.50%	5.24%	7.00%	6.20%	8.50%
33	6.39%	8.75%	4.82%	6.50%	5.43%	7.25%	6.20%	8.50%
34	6.39%	8.75%	4.82%	6.50%	5.43%	7.25%	6.38%	8.75%
35	6.57%	9.00%	5.00%	6.75%	5.61%	7.50%	6.38%	8.75%
36	6.57%	9.00%	5.00%	6.75%	5.80%	7.75%	6.56%	9.00%
37	6.75%	9.25%	5.00%	6.75%	5.80%	7.75%	6.56%	9.00%
38	6.75%	9.25%	5.18%	7.00%	5.98%	8.00%	6.75%	9.25%
39	6.94%	9.50%	5.18%	7.00%	5.98%	8.00%	6.93%	9.50%
40	6.94%	9.50%	5.36%	7.25%	6.17%	8.25%	6.93%	9.50%
41	7.12%	9.75%	5.36%	7.25%	6.17%	8.25%	7.11%	9.75%
42	7.12%	9.75%	5.55%	7.50%	6.36%	8.50%	7.11%	9.75%
43	7.30%	10.00%	5.55%	7.50%	6.54%	8.75%	7.29%	10.00%
44	7.49%	10.25%	5.55%	7.50%	6.54%	8.75%	7.29%	10.00%

General CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll) Calculated Under Recommended Assumptions								
	Rate Group 1 – Plan U		Rate Group 2 – Plan T		Rate Group 2 – Plan U		Rate Group 3 – Plan U	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total
45	7.49%	10.25%	5.73%	7.75%	6.74%	9.00%	7.47%	10.25%
46	7.67%	10.50%	5.73%	7.75%	6.92%	9.25%	7.65%	10.50%
47	7.67%	10.50%	5.93%	8.00%	7.11%	9.50%	7.65%	10.50%
48	7.85%	10.75%	5.93%	8.00%	7.11%	9.50%	7.84%	10.75%
49	8.04%	11.00%	6.11%	8.25%	7.30%	9.75%	7.84%	10.75%
50	8.04%	11.00%	6.11%	8.25%	7.48%	10.00%	8.03%	11.00%
51	8.21%	11.25%	6.29%	8.50%	7.48%	10.00%	8.20%	11.25%
52	8.40%	11.50%	6.29%	8.50%	7.67%	10.25%	8.20%	11.25%
53	8.40%	11.50%	6.48%	8.75%	7.86%	10.50%	8.39%	11.50%
54	8.58%	11.75%	6.48%	8.75%	8.05%	10.75%	8.57%	11.75%
55	8.77%	12.00%	6.29%	8.50%	8.22%	11.00%	8.57%	11.75%
56	8.77%	12.00%	6.29%	8.50%	8.22%	11.00%	8.75%	12.00%
57	8.94%	12.25%	6.11%	8.25%	8.43%	11.25%	8.93%	12.25%
58	9.13%	12.50%	6.48%	8.75%	8.61%	11.50%	9.11%	12.50%
59	9.32%	12.75%	6.66%	9.00%	8.80%	11.75%	9.11%	12.50%
60	9.32%	12.75%	6.66%	9.00%	8.80%	11.75%	9.30%	12.75%
61	9.32%	12.75%	6.66%	9.00%	8.98%	12.00%	9.30%	12.75%
62	9.32%	12.75%	6.66%	9.00%	8.80%	11.75%	9.30%	12.75%
63	9.13%	12.50%	6.66%	9.00%	8.80%	11.75%	9.11%	12.50%
64	8.94%	12.25%	6.66%	9.00%	8.61%	11.50%	8.93%	12.25%
65	9.32%	12.75%	6.66%	9.00%	8.98%	12.00%	9.30%	12.75%
66 and thereafter	9.68%	13.25%	6.66%	9.00%	9.35%	12.50%	9.48%	13.00%
COLA Loading:		*36.91%*		*35.06%*		*33.57%*		*37.13%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

It is our understanding that in the determination of pension benefits under the CalPEPRA 2.5% at 67 formula, the compensation that can be taken into account for 2013 is equal to $136,440 or 120% of the Social Security Taxable Wage Base (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013 (reference: Section 7522.10(d)).

General CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Rate Group 5 – Plan U		Rate Group 9 – Plan U		Rate Group 10 – Plan U		Rate Group 11 – Plan U	
Entry Age	**Normal**	**Total**	**Normal**	**Total**	**Normal**	**Total**	**Normal**	**Total**
15	6.21%	8.50%	6.09%	8.25%	5.29%	7.25%	5.83%	8.00%
16	6.21%	8.50%	6.09%	8.25%	5.29%	7.25%	5.83%	8.00%
17	5.85%	8.00%	5.72%	7.75%	5.11%	7.00%	5.46%	7.50%
18	5.67%	7.75%	5.35%	7.25%	4.74%	6.50%	5.28%	7.25%
19	5.67%	7.75%	5.53%	7.50%	4.92%	6.75%	5.28%	7.25%
20	5.85%	8.00%	5.53%	7.50%	4.92%	6.75%	5.28%	7.25%
21	5.85%	8.00%	5.72%	7.75%	5.11%	7.00%	5.46%	7.50%
22	5.85%	8.00%	5.72%	7.75%	5.11%	7.00%	5.46%	7.50%
23	6.04%	8.25%	5.90%	8.00%	5.11%	7.00%	5.64%	7.75%
24	6.04%	8.25%	5.90%	8.00%	5.29%	7.25%	5.64%	7.75%
25	6.21%	8.50%	6.09%	8.25%	5.29%	7.25%	5.83%	8.00%
26	6.21%	8.50%	6.09%	8.25%	5.48%	7.50%	5.83%	8.00%
27	6.40%	8.75%	6.28%	8.50%	5.48%	7.50%	6.01%	8.25%
28	6.40%	8.75%	6.28%	8.50%	5.65%	7.75%	6.01%	8.25%
29	6.58%	9.00%	6.28%	8.50%	5.65%	7.75%	6.01%	8.25%
30	6.58%	9.00%	6.46%	8.75%	5.65%	7.75%	6.20%	8.50%
31	6.76%	9.25%	6.46%	8.75%	5.83%	8.00%	6.20%	8.50%
32	6.76%	9.25%	6.65%	9.00%	5.83%	8.00%	6.38%	8.75%
33	6.94%	9.50%	6.65%	9.00%	6.02%	8.25%	6.38%	8.75%
34	7.13%	9.75%	6.83%	9.25%	6.02%	8.25%	6.56%	9.00%
35	7.13%	9.75%	7.01%	9.50%	6.20%	8.50%	6.56%	9.00%
36	7.32%	10.00%	7.01%	9.50%	6.20%	8.50%	6.74%	9.25%
37	7.32%	10.00%	7.20%	9.75%	6.38%	8.75%	6.92%	9.50%
38	7.50%	10.25%	7.20%	9.75%	6.38%	8.75%	6.92%	9.50%
39	7.50%	10.25%	7.37%	10.00%	6.56%	9.00%	7.10%	9.75%
40	7.68%	10.50%	7.37%	10.00%	6.56%	9.00%	7.10%	9.75%
41	7.85%	10.75%	7.56%	10.25%	6.74%	9.25%	7.29%	10.00%
42	7.85%	10.75%	7.56%	10.25%	6.74%	9.25%	7.29%	10.00%
43	8.04%	11.00%	7.75%	10.50%	6.93%	9.50%	7.47%	10.25%
44	8.04%	11.00%	7.93%	10.75%	6.93%	9.50%	7.47%	10.25%

General CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Rate Group 5 – Plan U		Rate Group 9 – Plan U		Rate Group 10 – Plan U		Rate Group 11 – Plan U	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total
45	8.22%	11.25%	7.93%	10.75%	7.12%	9.75%	7.65%	10.50%
46	8.41%	11.50%	8.12%	11.00%	7.29%	10.00%	7.83%	10.75%
47	8.59%	11.75%	8.31%	11.25%	7.29%	10.00%	7.83%	10.75%
48	8.59%	11.75%	8.31%	11.25%	7.48%	10.25%	8.02%	11.00%
49	8.77%	12.00%	8.49%	11.50%	7.48%	10.25%	8.20%	11.25%
50	8.96%	12.25%	8.67%	11.75%	7.66%	10.50%	8.20%	11.25%
51	8.96%	12.25%	8.67%	11.75%	7.84%	10.75%	8.38%	11.50%
52	9.13%	12.50%	8.86%	12.00%	7.84%	10.75%	8.56%	11.75%
53	9.32%	12.75%	9.04%	12.25%	8.03%	11.00%	8.56%	11.75%
54	9.50%	13.00%	9.23%	12.50%	8.03%	11.00%	8.75%	12.00%
55	9.50%	13.00%	9.23%	12.50%	8.20%	11.25%	8.93%	12.25%
56	9.68%	13.25%	9.41%	12.75%	8.39%	11.50%	9.11%	12.50%
57	9.87%	13.50%	9.59%	13.00%	8.58%	11.75%	9.11%	12.50%
58	10.05%	13.75%	9.78%	13.25%	8.58%	11.75%	9.29%	12.75%
59	10.24%	14.00%	9.78%	13.25%	8.75%	12.00%	9.47%	13.00%
60	10.24%	14.00%	9.96%	13.50%	8.75%	12.00%	9.47%	13.00%
61	10.24%	14.00%	9.96%	13.50%	8.75%	12.00%	9.47%	13.00%
62	10.24%	14.00%	9.96%	13.50%	8.75%	12.00%	9.47%	13.00%
63	10.05%	13.75%	9.78%	13.25%	8.75%	12.00%	9.47%	13.00%
64	9.87%	13.50%	9.59%	13.00%	8.58%	11.75%	9.11%	12.50%
65	10.24%	14.00%	9.96%	13.50%	8.75%	12.00%	9.47%	13.00%
66 and thereafter	10.61%	14.50%	10.34%	14.00%	9.12%	12.50%	9.83%	13.50%
COLA Loading:		*36.88%*		*35.43%*		*37.10%*		*37.24%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

It is our understanding that in the determination of pension benefits under the 2.5% at 67 CalPEPRA formula, the compensation that can be taken into account for 2013 is equal to $136,440 or 120% of the Social Security Taxable Wage Base (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013 (reference: Section 7522.10(d)).

Safety Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan E (Fire Authority)		Plan E (Law Enforcement)		Plan E (Probation)	
Entry Age	Normal	Total	Normal	Total	Normal	Total
15	4.24%	9.75%	4.24%	9.91%	4.24%	9.10%
16	4.24%	9.75%	4.24%	9.91%	4.24%	9.10%
17	4.31%	9.90%	4.31%	10.06%	4.31%	9.24%
18	4.37%	10.04%	4.37%	10.21%	4.37%	9.37%
19	4.44%	10.19%	4.44%	10.36%	4.44%	9.51%
20	4.50%	10.35%	4.50%	10.51%	4.50%	9.66%
21	4.57%	10.50%	4.57%	10.67%	4.57%	9.80%
22	4.64%	10.66%	4.64%	10.83%	4.64%	9.95%
23	4.71%	10.82%	4.71%	11.00%	4.71%	10.10%
24	4.78%	10.99%	4.78%	11.17%	4.78%	10.26%
25	4.86%	11.16%	4.86%	11.34%	4.86%	10.42%
26	4.93%	11.34%	4.93%	11.52%	4.93%	10.58%
27	5.01%	11.52%	5.01%	11.71%	5.01%	10.75%
28	5.09%	11.71%	5.09%	11.90%	5.09%	10.93%
29	5.18%	11.90%	5.18%	12.09%	5.18%	11.11%
30	5.26%	12.10%	5.26%	12.30%	5.26%	11.29%
31	5.36%	12.31%	5.36%	12.51%	5.36%	11.49%
32	5.45%	12.53%	5.45%	12.73%	5.45%	11.69%
33	5.55%	12.76%	5.55%	12.96%	5.55%	11.91%
34	5.63%	12.94%	5.63%	13.14%	5.63%	12.07%
35	5.71%	13.13%	5.71%	13.34%	5.71%	12.25%
36	5.80%	13.33%	5.80%	13.54%	5.80%	12.44%
37	5.89%	13.54%	5.89%	13.76%	5.89%	12.64%
38	6.00%	13.78%	6.00%	14.00%	6.00%	12.86%
39	6.11%	14.04%	6.11%	14.27%	6.11%	13.10%
40	6.21%	14.26%	6.21%	14.49%	6.21%	13.31%
41	6.32%	14.52%	6.32%	14.75%	6.32%	13.55%
42	6.39%	14.68%	6.39%	14.91%	6.39%	13.70%

Safety Tier 1 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan E (Fire Authority)		Plan E (Law Enforcement)		Plan E (Probation)	
Entry Age	**Normal**	**Total**	**Normal**	**Total**	**Normal**	**Total**
43	6.47%	14.88%	6.47%	15.12%	6.47%	13.89%
44	6.53%	15.00%	6.53%	15.25%	6.53%	14.00%
45	6.55%	15.06%	6.55%	15.30%	6.55%	14.05%
46	6.49%	14.92%	6.49%	15.16%	6.49%	13.92%
47	6.40%	14.71%	6.40%	14.94%	6.40%	13.73%
48	6.29%	14.46%	6.29%	14.69%	6.29%	13.49%
49	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
50	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
51	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
52	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
53	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
54	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
55	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
56	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
57	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
58	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
59	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
60	6.01%	13.81%	6.01%	14.04%	6.01%	12.89%
COLA Loading:		*129.82%*		*133.54%*		*114.52%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

Safety Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan F (Fire Authority)		Plan F (Law Enforcement)		Plan F (Probation)		Plan R (Fire Authority)		Plan R (Law Enforcement)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total	Normal	Total
15	8.11%	13.37%	8.11%	13.52%	8.11%	12.75%	8.11%	12.62%	8.11%	12.82%
16	8.11%	13.37%	8.11%	13.52%	8.11%	12.75%	8.11%	12.62%	8.11%	12.82%
17	8.23%	13.57%	8.23%	13.72%	8.23%	12.94%	8.23%	12.81%	8.23%	13.01%
18	8.35%	13.77%	8.35%	13.93%	8.35%	13.13%	8.35%	13.00%	8.35%	13.20%
19	8.47%	13.98%	8.47%	14.13%	8.47%	13.33%	8.47%	13.20%	8.47%	13.40%
20	8.60%	14.19%	8.60%	14.35%	8.60%	13.53%	8.60%	13.39%	8.60%	13.60%
21	8.73%	14.40%	8.73%	14.56%	8.73%	13.73%	8.73%	13.60%	8.73%	13.80%
22	8.86%	14.62%	8.86%	14.78%	8.86%	13.94%	8.86%	13.80%	8.86%	14.01%
23	9.00%	14.84%	9.00%	15.01%	9.00%	14.15%	9.00%	14.01%	9.00%	14.23%
24	9.14%	15.07%	9.14%	15.24%	9.14%	14.37%	9.14%	14.23%	9.14%	14.45%
25	9.28%	15.30%	9.28%	15.48%	9.28%	14.59%	9.28%	14.45%	9.28%	14.67%
26	9.43%	15.55%	9.43%	15.72%	9.43%	14.82%	9.43%	14.68%	9.43%	14.90%
27	9.58%	15.79%	9.58%	15.97%	9.58%	15.06%	9.58%	14.91%	9.58%	15.14%
28	9.73%	16.05%	9.73%	16.23%	9.73%	15.31%	9.73%	15.15%	9.73%	15.39%
29	9.89%	16.31%	9.89%	16.50%	9.89%	15.56%	9.89%	15.40%	9.89%	15.64%
30	10.06%	16.59%	10.06%	16.78%	10.06%	15.82%	10.06%	15.66%	10.06%	15.90%
31	10.23%	16.87%	10.23%	17.06%	10.23%	16.09%	10.23%	15.93%	10.23%	16.18%
32	10.40%	17.15%	10.40%	17.34%	10.40%	16.35%	10.40%	16.19%	10.40%	16.44%
33	10.56%	17.41%	10.56%	17.60%	10.56%	16.60%	10.56%	16.43%	10.56%	16.69%
34	10.70%	17.65%	10.70%	17.85%	10.70%	16.83%	10.70%	16.67%	10.70%	16.92%
35	10.86%	17.91%	10.86%	18.12%	10.86%	17.08%	10.86%	16.91%	10.86%	17.17%
36	11.03%	18.19%	11.03%	18.39%	11.03%	17.35%	11.03%	17.17%	11.03%	17.44%
37	11.21%	18.48%	11.21%	18.69%	11.21%	17.63%	11.21%	17.45%	11.21%	17.72%
38	11.39%	18.78%	11.39%	18.99%	11.39%	17.91%	11.39%	17.73%	11.39%	18.00%
39	11.56%	19.07%	11.56%	19.29%	11.56%	18.19%	11.56%	18.01%	11.56%	18.28%
40	11.71%	19.32%	11.71%	19.53%	11.71%	18.42%	11.71%	18.24%	11.71%	18.52%
41	11.85%	19.54%	11.85%	19.76%	11.85%	18.64%	11.85%	18.45%	11.85%	18.73%
42	11.95%	19.70%	11.95%	19.92%	11.95%	18.79%	11.95%	18.60%	11.95%	18.89%
43	12.01%	19.80%	12.01%	20.02%	12.01%	18.88%	12.01%	18.69%	12.01%	18.98%
44	11.97%	19.74%	11.97%	19.96%	11.97%	18.82%	11.97%	18.63%	11.97%	18.92%

Safety Tier 2 Members' Contribution Rates from the December 31, 2012 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Plan F (Fire Authority)		Plan F (Law Enforcement)		Plan F (Probation)		Plan R (Fire Authority)		Plan R (Law Enforcement)	
Entry Age	Normal	Total	Normal	Total	Normal	Total	Normal	Total	Normal	Total
45	11.84%	19.52%	11.84%	19.74%	11.84%	18.62%	11.84%	18.43%	11.84%	18.72%
46	11.63%	19.18%	11.63%	19.40%	11.63%	18.29%	11.63%	18.11%	11.63%	18.39%
47	11.26%	18.57%	11.26%	18.78%	11.26%	17.71%	11.26%	17.54%	11.26%	17.80%
48	11.63%	19.18%	11.63%	19.40%	11.63%	18.29%	11.63%	18.11%	11.63%	18.39%
49	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
50	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
51	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
52	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
53	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
54	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
55	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
56	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
57	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
58	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
59	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
60	12.02%	19.82%	12.02%	20.05%	12.02%	18.90%	12.02%	18.72%	12.02%	19.00%
COLA Loading:		*64.91%*		*66.77%*		*57.26%*		*55.70%*		*58.08%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

Safety CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll) Calculated Under Recommended Assumptions						
	Rate Group 6 – Plan V		Rate Group 7 – Plan V		Rate Group 8 – Plan V	
Entry Age	Normal	Total	Normal	Total	Normal	Total
15	8.12%	11.50%	9.63%	13.75%	9.05%	13.00%
16	8.12%	11.50%	9.63%	13.75%	9.05%	13.00%
17	8.30%	11.75%	9.81%	14.00%	9.22%	13.25%
18	8.48%	12.00%	9.99%	14.25%	9.41%	13.50%
19	8.48%	12.00%	10.16%	14.50%	9.41%	13.50%
20	8.65%	12.25%	10.33%	14.75%	9.57%	13.75%
21	8.83%	12.50%	10.33%	14.75%	9.75%	14.00%
22	8.83%	12.50%	10.52%	15.00%	9.92%	14.25%
23	9.01%	12.75%	10.69%	15.25%	10.09%	14.50%
24	9.19%	13.00%	10.86%	15.50%	10.09%	14.50%
25	9.36%	13.25%	11.04%	15.75%	10.27%	14.75%
26	9.54%	13.50%	11.21%	16.00%	10.45%	15.00%
27	9.54%	13.50%	11.39%	16.25%	10.62%	15.25%
28	9.71%	13.75%	11.57%	16.50%	10.80%	15.50%
29	9.89%	14.00%	11.74%	16.75%	10.97%	15.75%
30	10.07%	14.25%	11.91%	17.00%	11.14%	16.00%
31	10.25%	14.50%	12.09%	17.25%	11.32%	16.25%
32	10.42%	14.75%	12.26%	17.50%	11.50%	16.50%
33	10.60%	15.00%	12.45%	17.75%	11.67%	16.75%
34	10.78%	15.25%	12.62%	18.00%	11.84%	17.00%
35	10.95%	15.50%	12.79%	18.25%	12.02%	17.25%
36	11.13%	15.75%	13.14%	18.75%	12.18%	17.50%
37	11.30%	16.00%	13.32%	19.00%	12.53%	18.00%
38	11.49%	16.25%	13.49%	19.25%	12.70%	18.25%
39	11.66%	16.50%	13.67%	19.50%	12.88%	18.50%
40	11.84%	16.75%	14.02%	20.00%	13.05%	18.75%
41	12.01%	17.00%	14.20%	20.25%	13.23%	19.00%
42	12.19%	17.25%	14.36%	20.50%	13.40%	19.25%
43	12.37%	17.50%	14.54%	20.75%	13.58%	19.50%
44	12.55%	17.75%	14.89%	21.25%	13.93%	20.00%

Safety CalPEPRA Tiers (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions

	Rate Group 6		Rate Group 7		Rate Group 8	
Entry Age	Normal	Total	Normal	Total	Normal	Total
45	12.73%	18.00%	15.08%	21.50%	14.10%	20.25%
46	12.90%	18.25%	15.24%	21.75%	14.28%	20.50%
47	13.07%	18.50%	15.42%	22.00%	14.45%	20.75%
48	13.24%	18.75%	15.60%	22.25%	14.63%	21.00%
49	13.42%	19.00%	15.78%	22.50%	14.80%	21.25%
50	13.42%	19.00%	15.94%	22.75%	14.80%	21.25%
51	13.42%	19.00%	15.78%	22.50%	14.80%	21.25%
52	13.24%	18.75%	15.60%	22.25%	14.63%	21.00%
53	13.07%	18.50%	15.42%	22.00%	14.45%	20.75%
54	12.55%	17.75%	14.89%	21.25%	13.93%	20.00%
55	13.07%	18.50%	15.42%	22.00%	14.45%	20.75%
56 and thereafter	13.42%	19.00%	15.94%	22.75%	14.80%	21.25%
COLA Loading:		*41.51%*		*42.56%*		*43.57%*

Interest: *7.25%*
Salary Increases: *See Exhibit V, page 78*
Mortality: *See Exhibit V, page 71*

It is our understanding that in the determination of pension benefits under the 2.7% at 57 CalPEPRA formula, the compensation that can be taken into account for 2013 is equal to $136,440 or 120% of the Social Security Taxable Wage Base (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013 (reference: Section 7522.10(d)).

Appendix C
Funded Percentages

The funded percentages on a valuation value of assets basis by rate group provided for informational purposes only are as follows:

	Funded Percentage	
	December 31, 2012 Valuation	December 31, 2011 Valuation
General Members		
Rate Group #1 – Plans A and B (non-OCTA, non-OCSD – 2.0% @ 57 and 1.6667% @ 57.5)	71.52%	76.89%
Rate Group #2 – Plans I, J, O, P and S (2.7% @ 55, 1.62% @ 65 and 2.0% @ 57 combined)	60.60%	65.02%
Rate Group #3 – Plans B, G and H (2.5% @ 55 and 1.64% @ 57 combined)	58.96%	63.22%
Rate Group #5 – Plans A and B (OCTA – 2.0% @ 57 and 1.6667% @ 57.5)	67.97%	72.20%
Rate Group #9 – Plans M and N (TCA – 2.0% @ 55)	61.90%	65.55%
Rate Group #10 – Plans I, J, M and N (OCFA – 2.7% @ 55 and 2.0% @ 55 combined)	56.00%	59.65%
Rate Group #11 – Plans M and N, future service (Cemetery – 2.0% @ 55)	71.78%	77.96%
Safety Members		
Rate Group #6 – Plans E and F (Probation – 3.0% @ 50)	64.99%	69.34%
Rate Group #7 – Plans E, F, Q and R (Law Enforcement – 3.0% @ 50 and 3.0% @ 55 combined)	64.77%	69.69%
Rate Group #8 – Plans E, F, Q and R (Fire Authority – 3.0% @ 50 and 3.0% @ 55 combined)	66.24%	70.46%

Appendix D

Reconciliation of Employer Contribution Rates (by Rate Group)

The reconciliation of the employer contribution rates for the General rate groups are as follows:

	Rate Group						
	#1	#2	#3	#5	#9	#10	#11
Recommended Contribution Rate as of December 31, 2011	18.94%	32.91%	31.86%	23.65%	22.22%	32.76%	19.03%
Effect of investment loss	1.69%	1.97%	1.74%	1.79%	1.16%	1.55%	1.49%
Effect of actual individual salary increases more/(less) than expected	-1.02%	-1.31%	-1.24%	-1.58%	-0.73%	-1.31%	-0.69%
Effect of growth in total payroll (more)/less than expected	0.03%	0.93%	0.90%	0.87%	1.47%	0.92%	0.41%
Effect of changes in economic assumptions	3.11%	4.17%	3.81%	3.38%	2.93%	3.94%	3.26%
Effect of other experience (gain)/loss[(1)]	-0.16%	0.75%	1.27%[(2)]	0.20%	0.12%	0.83%	1.12%[(2)]
Subtotal	3.65%	6.51%	6.48%	4.66%	4.95%	5.93%	5.59%
Recommended Contribution Rate as of December 31, 2012[(3)]	22.59%	39.42%	38.34%	28.31%	27.17%	38.69%	24.62%
Recommended Contribution Rate as of December 31, 2012 with 2-year Phase-in	21.04%	37.34%	36.44%	26.62%	25.71%	36.72%	22.99%

(1) *Includes an adjustment to reflect 18-month delay between date of valuation and date of rate implementation for the rate impact of all actuarial experience (excluding the change in economic assumptions).*

(2) *Effect of other experience (gain)/loss includes:*

	Rate Group #3	*Retirement Loss*	*1.66%*
		Turnover Gain	*-0.61%*
	Rate Group #11	*Mortality Loss*	*0.85%*

(3) *Before reflecting two-year phase-in of the effect of the changes in economic actuarial assumptions.*

Appendix D (Continued)

Reconciliation of Employer Contribution Rates (by Rate Group)

The reconciliation of the employer contribution rates for the Safety rate groups are as follows:

	Rate Group		
	#6	**#7**	**#8**
Recommended Contribution Rate as of December 31, 2011	36.57%	50.86%	43.15%
Effect of investment loss	2.01%	3.43%	2.57%
Effect of actual individual salary increases more/(less) than expected	-1.59%	-1.81%	-1.00%
Effect of growth in total payroll (more)/less than expected	0.63%	0.45%	1.48%
Effect of changes in economic assumptions	5.31%	7.36%	6.35%
Effect of other experience (gain)/loss[1]	0.24%	0.66%	0.45%
Subtotal	6.60%	10.09%	9.85%
Recommended Contribution Rate as of December 31, 2012[2]	43.17%	60.95%	53.00%
Recommended Contribution Rate as of December 31, 2012 with 2-year Phase-in	40.52%	57.28%	49.83%

(1) *Includes an adjustment to reflect 18-month delay between date of valuation and date of rate implementation for the rate impact of all actuarial experience (excluding the change in economic assumptions).*

(2) *Before reflecting two-year phase-in of the effect of the changes in economic actuarial assumptions.*

SEGAL | OCERS Actuarial Funding Policy

Actuarial Funding Policy

June 17, 2013

ANDY YEUNG, ASA, MAAA, FCA, EA
Vice President and Associate Actuary
The Segal Company

Attachment 2

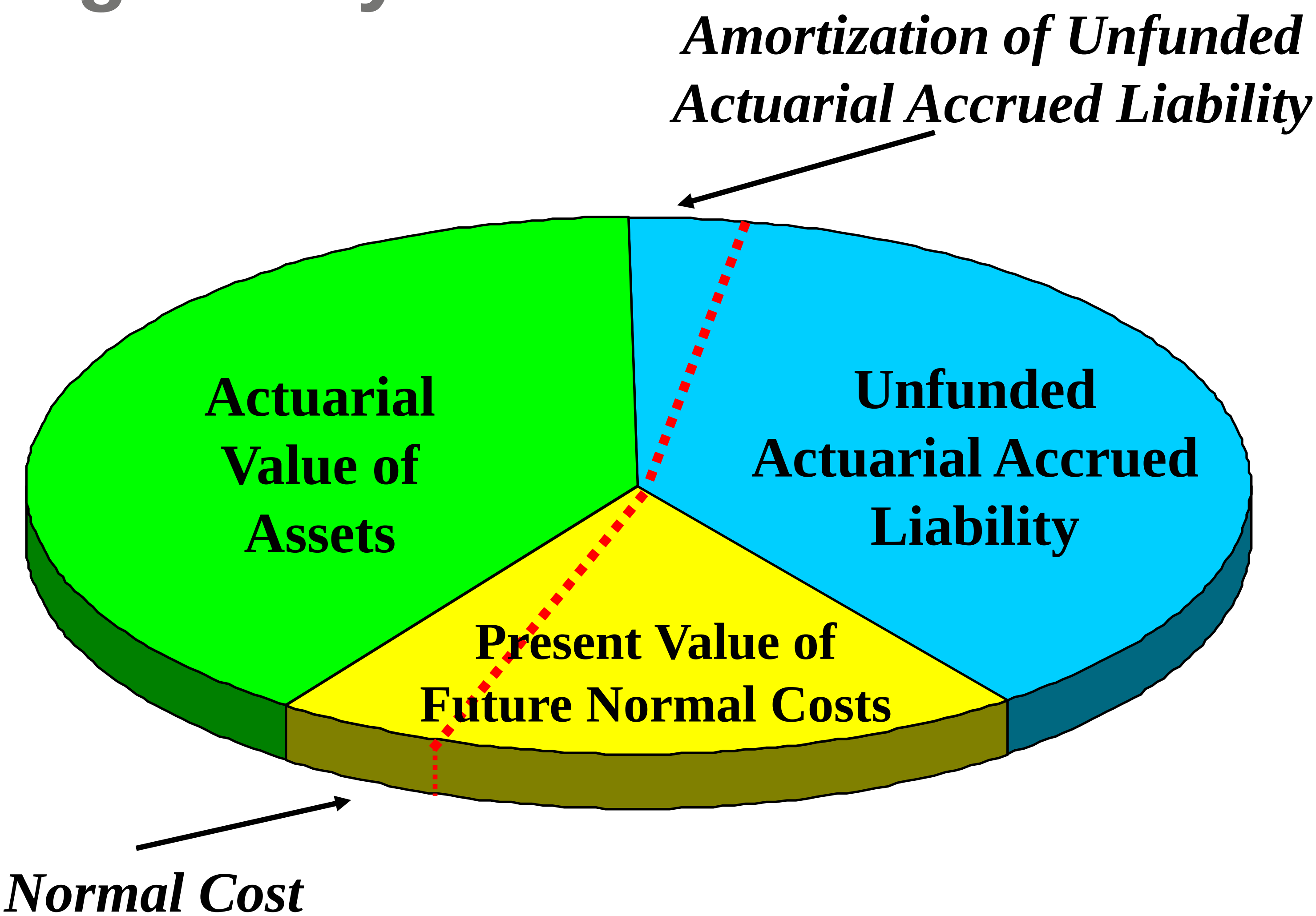
5254081v1

Funding Policy Components

- **Actuarial Cost (Funding) Method** – allocates costs to time periods, past vs. future
- **Asset Smoothing Method** – assigns a value to assets for determining contribution requirements
- **UAAL Amortization Policy** – how, and how long to fund difference between liabilities and assets

- Interest crediting and excess earnings policy
  - Unique to 1937 Act county systems
  - Generally separate from funding policy

Funding Policy and Annual Cost



General Policy Objectives

1. Future contributions plus current assets sufficient to fund all benefits for current members
   - Contributions = Normal Cost + full UAAL payment
2. Reasonable allocation of cost to years of service
   - Both expected costs and variations from expected costs
3. Reasonable management and control of future employer contribution volatility
   - Consistent with other policy objectives

General Policy Objectives

4. Support public policy goals of accountability and transparency
   - Clear in intent and effect
   - Allow assessment of whether, how and when sponsor will meet funding requirements
   - Enhance credibility and objectivity of cost calculations

General Policy Objectives

- Policy objectives 2 and 3 reflect two aspects of the general policy objective of “interperiod equity” (IPE).
- Objective 2 promotes “demographic matching”
  - intergenerational interperiod equity
- Objective 3 promotes “volatility management”
  - period-to-period interperiod equity
- These two aspects of IPE tend to move funding policy in opposite directions.
  - policy objectives 2 and 3 combine to seek to balance intergenerational and period-to-period IPE
  - demographic matching vs. volatility management

OCERS Current Funding Policy

- Cost method
  - Entry Age Normal (EAN)
- Asset smoothing method
  - 5-year smoothing period without a market value corridor
  - Reaffirmed by the Board in 2009
- UAAL amortization policy
  - Layered approach for UAAL established after 12/31/2004
    - 15 years for gains or losses and plan amendments
    - 30 years for assumption changes
  - UAAL prior to 12/31/2004 combined and amortized over 30 years
    - 22 years left as of 12/31/2012
  - Level percent of pay amortization

Funding Policy Recommendations

- No change to Entry Age Normal cost method
  - Used by other California public retirement systems
- No change to asset smoothing method
  - Most California public retirement systems use 5 years
  - Sacramento CERS & two City of LA plans use 7 years
  - Use the same period to smooth investment gains and losses

Funding Policy Recommendations

- Focus of today's discussion is on amortization policy
- Separate decisions on future versus current UAAL
- Emerging model practices for (future) UAAL amort.
  - Shorter than 30 years for assumption changes
  - Plan Amendments
    - Shorter periods than for other sources of UAAL
    - Particularly for Early Retirement Incentive Programs
  - Surplus
    - Longer periods than for UAAL
    - Allows consideration of other Surplus management tools

Funding Policy Recommendations

- Amortization periods for current UAAL
  - Equivalent single amortization period: between 19 and 20 years as of 12/31/2012
  - No compelling actuarial reasons for shortening or lengthening the amortization periods for current UAAL
    - Unless goal is to accelerate or decelerate plan's progression to 100% funding
      - With a corresponding increase or decrease in current employer contributions

Amortization Policy

- Component of Annual Contribution
  - Normal cost plus amortization of unfunded liability
- Sources of Unfunded Liability
  - Plan changes
  - Assumption or method changes
  - Gains / losses
- Amortization policy includes:
  - Structure: Single UAAL or in layers
    - Also: fixed (closed) or rolling (open) amortization
  - Payment pattern: level dollar or level percent of pay
  - Periods: how long to fund the UAAL

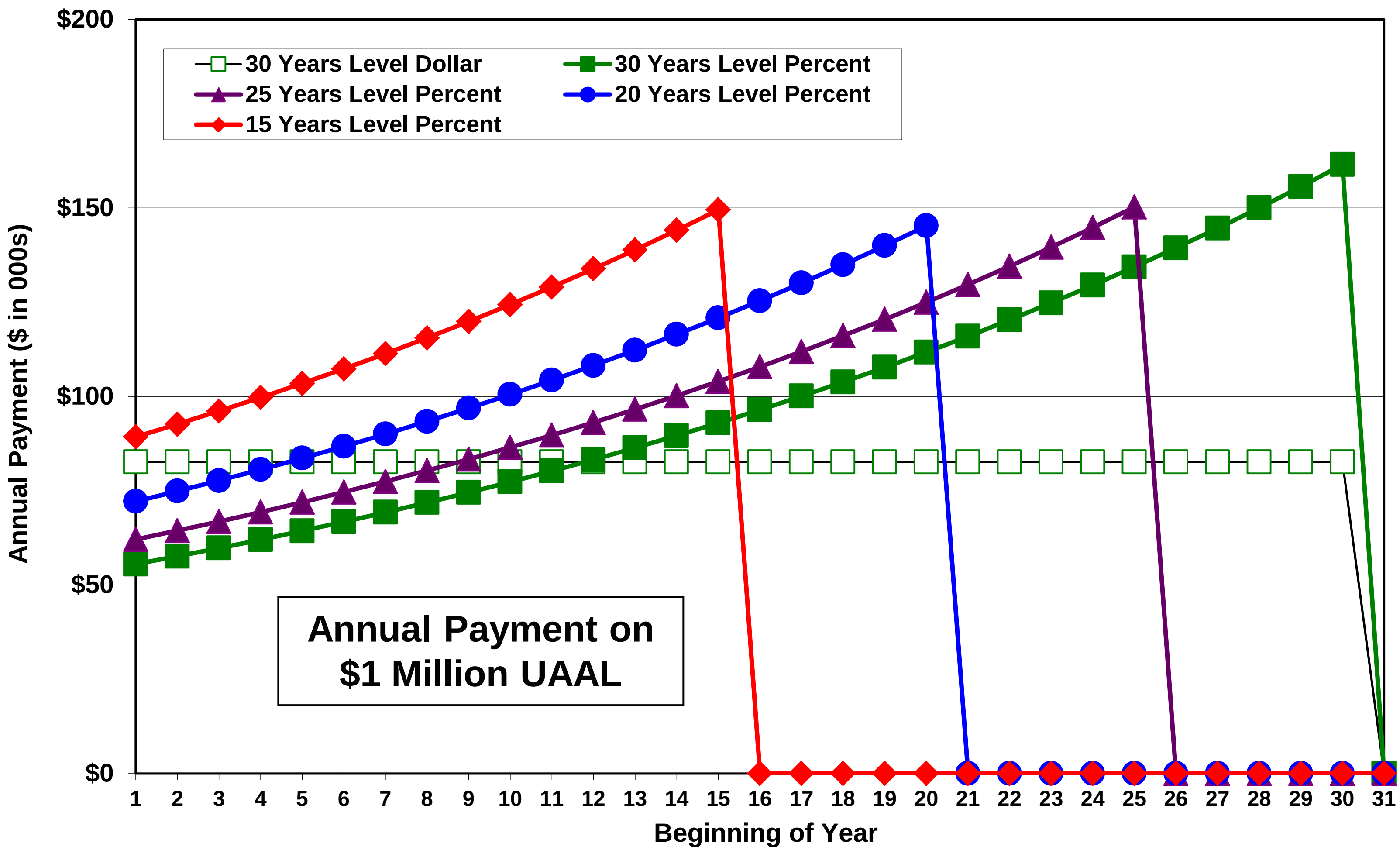
Amortization Structure

- OCERS amortizes UAAL in layers
- Model approach: multiple amortization layers
  - First layer is the combined UAAL as of December 31, 2004
  - Each year, new layer of UAAL for gain/loss, assumption/method changes, plan amendments
  - Can use different periods for different sources of UAAL
    - OCERS: 15 years for gains or losses and plan amendments
    - 30 years for assumption or method changes
- Key issue: current UAAL layers as of December 31, 2013 (proposed effective date)
  - Current net amortization equivalent to about 19-20 years
  - Could simply continue current declining amortization periods
  - Or adopt a shorter/longer period – with immediate cost impact

Illustration of Amortization Methods

7.25% interest 3.75% salary incr.	30 years Flat dollar	30 years % of pay	25 years % of pay	20 years % of pay	15 years % of pay
Increase in AAL	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Amortization factor	12.1037	18.0116	16.1061	13.8568	11.2017
(first year)	0.082620	0.055520	0.062088	0.072167	0.089272
Amortization amount					
Year 1	$ 82,620	$ 55,520	$ 62,088	$ 72,167	$ 89,272
Year 15	$ 82,620	$ 92,957	$ 103,954	$ 120,828	$ 149,469
Year 20	$ 82,620	$ 111,743	$ 124,963	$ 145,248	$ 0
Year 30	$ 82,620	$ 161,474	$ 0	$ 0	$ 0
Total amount paid					
Principal	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Interest	1,478,589	1,986,918	1,500,357	1,094,084	754,709
Total	$ 2,478,589	$ 2,986,918	$ 2,500,357	$ 2,094,084	$ 1,754,709

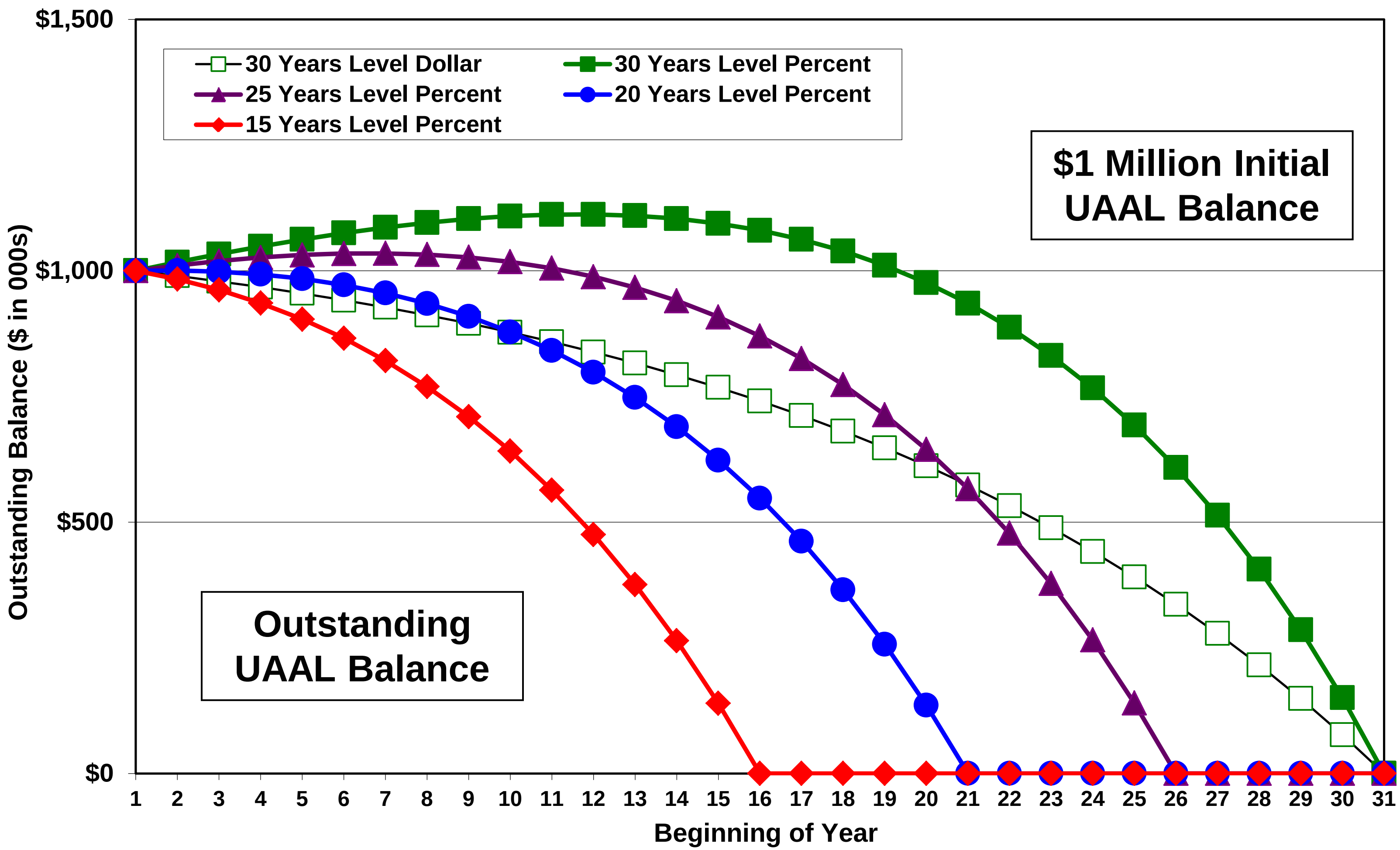
Illustration of Amortization Periods – Annual Payment ($ in 000s)



Negative Amortization

- $1,000,000 liability, 7.25% interest
- First year interest only is $72,500
- With level dollar payments, payments are always greater than interest
- With level percentage payments, early payments can be less than interest
  - UAAL increases (but not as a percentage of payroll!)
  - Eventually larger payments cover interest plus increased UAAL
    - With current assumptions, negative amortization if amort. period is longer than about 20 years

Illustration of Amortization Periods – Outstanding UAAL Balance ($ in 000s)



Model Fixed Layer Periods

- Tradeoff between demographic matching and volatility management
  - Two aspects of “interperiod equity”
  - Constraint: <u>consideration</u> of negative amortization
  - Exception: volatility generally N/A for plan changes
- Under 15 years: too volatile
- Over 20 (25?) years: too much neg. amortization
  - 25 is the new 30: “out of bounds marker”
  - 30 years reserved for surplus
    - Normal Cost requires UAAL/surplus “asymmetry”

Model Amortization Periods

- Gains and losses: 15 to 20 years
  - Volatility management, but avoid too long a period
- Assumption and method changes: 20 to 25 years
  - Long term remeasurements, so could justify longer amortization than for gains and losses
  - To illustrate impact, what if assumption changes approved in the last 6 years were amortized over 25 year instead of 30 years?
    (see Segal's April 4, 2013 letter)
    - 0.3% to 0.9% of payroll, depending on Rate Group

Model Amortization Periods

- Plan amendments: demographic (15 yrs. or less)
  - Avoid any negative amortization since changes are within control of plan sponsor
  - Demographic matching for actives or inactives
  - Much shorter for Early Retirement Incentives (< 5 yrs)

Contributions when Plan has surplus

- Usual contribution is NC plus UAAL amortization
- Surplus: contribute NC minus Surplus amortization
- Short surplus amortization periods means contribution holidays, even with modest surplus
  - See late 1990s for real life examples
- Recommended approach: minimum contribution
  - 30 year amortization of surplus
- CalPEPRA further limits amortization of surplus
  - Funded ratio has to be > 120%

Alternative Periods for Future UAALs

- Applies only to future changes in UAAL
  - No immediate impact to contribution rates
  - Any changes would be implemented in 12/31/2013 valuation and would apply to any new changes in UAAL on or after 1/1/2013

Source	Current	Alt #1	Alt #2	Alt #3
Actuarial Gains or Losses	15	15	20	15
Assumptions or Method Changes	30	20	20	25
Plan Amendments	15	15 or less	15 or less	15 or less
ERIPs	15	Up to 5	Up to 5	Up to 5
Actuarial Surplus	15	30	30	30

Alternative Periods for Future UAALs

- Option discussed at February 19 meeting

Source	Current	Option
Actuarial Gains or Losses	15	20
Assumptions or Method Changes	30	30
Plan Amendments	15	15 or less
ERIPs	15	Up to 5
Actuarial Surplus	15	30

  - Balance policy objective 2 (demographic matching) vs objective 3 (volatility management)
  - Need to consider balance between intergenerational and period-to-period IPE

QUESTIONS

Alternative Periods for Current UAAL

- Board may consider shorter (or longer) amortization period for current UAAL
- Most clear and direct actuarial policy action to accelerate plan's progression to 100% funding
- Impact of shorter amortization for current UAAL
  - Any change would not be implemented until 12/31/13 valuation
  - Re-amortize UAAL from 12/31/12
  - Re-amortize change in investment return assumption
    - Would already have been included in UAAL as of 12/31/12, with 30 year amortization

Alternative Periods for Current UAAL

- Impact of shorter amortization for current UAAL on employer rate:

	UAAL	Change in ER Rate (% of Pay)*		
	Dollar Amount	10 Yrs	15 Yrs	20 Yrs
12/31/12 UAAL excl. Assumption Changes	$4,741.1 M	+13.5%	+3.6%	-1.3%
12/31/12 Assumption Changes	$934.6 M	+3.9%	+1.9%	+0.9%
Total	$5,675.7 M	+17.4%	+5.5%	-0.4%

* Does not include adjustment for 18-month delay in contribution rate implementation.

Alternative Periods for Current UAAL

- Other amortization periods for current UAAL discussed at February 19 meeting – shorter than current:

	UAAL	Change in ER Rate (% of Pay)*			
	Dollar Amount	16 Yrs	17 Yrs	18 Yrs	19 Yrs
12/31/12 UAAL excl. Assumption Changes	$4,741.1 M	+2.4%	+1.3%	+0.3%	-0.5%
12/31/12 Assumption Changes	$934.6 M	+1.7%	+1.4%	+1.3%	+1.1%
Total	$5,675.7 M	+4.1%	+2.7%	+1.6%	+0.6%

* Does not include adjust. for 18-month delay in contribution rate implementation.

Alternative Periods for Current UAAL

- Other amortization periods for current UAAL discussed at February 19 meeting – longer than current:

	UAAL	Change in ER Rate (% of Pay)*	
	Dollar Amount	25 Yrs	30 Yrs
12/31/12 UAAL excl. Assumption Changes	$4,741.1 M	-4.2%	-6.0%
12/31/12 Assumption Changes	$934.6 M	+0.4%	+0.0%
Total	$5,675.7 M	-3.8%	-6.0%

* Does not include adjust. for 18-month delay in contribution rate implementation.

Alternative Periods for Current UAAL

- Other amortization period for current UAAL discussed at February 19 meeting – future working lifetime:
  - Funding the UAAL over the years the current active employees are expected to work before receiving benefit
  - Referred to as average future working lifetime, average future service years, average remaining service lifetime, etc.
    - No universal agreement on terminology or method of calculation
    - Under one definition used for corporate pension plan: About 11 years for OCERS
- Balance policy objective 2 (demographic matching) vs objective 3 (volatility management)
- Need to consider balance between intergenerational and period-to-period IPE

Alternative Periods for Current UAAL

- Reverse pickups by certain employees
  - Agreement between employer and employee to pay for the past and/or future cost of benefit enhancements
  - Use at Orange County and some other California public retirement systems
  - Terms of agreement not under purview of the board of retirement

Funding Policy Recommendations

- EAN Cost method
  - No changes recommended
- Asset smoothing method
  - No changes recommended
- UAAL amortization policy
  - For (current) UAALs established prior to 12/31/2012
    - No changes recommended unless the Board wishes to accelerate or decelerate progress to 100% funding
  - For (future) UAALs established after 12/31/2012
    - Consider one of the alternative sets of amortization period (Alt #1, #2 or #3)

Future Discussion Topics

- Aggregation of Tier 1 and Tier 2 normal cost
- Employer/member sharing of the cost of annual payoffs
- Anticipated COLA as an assumption in determining optional forms of retirement benefit
- GASB 67/68

QUESTIONS

RAEL & LETSON
CONSULTANTS AND ACTUARIES
378 VINTAGE PARK DRIVE ♦ FOSTER CITY, CALIFORNIA 94404-4813
TELEPHONE (650) 341-3311 ♦ FAX (650) 341-5392
WWW.RAEL-LETSON.COM

MEMORANDUM

TO:	Mark Nichols Executive Director, Association of Orange County Deputy Sheriffs
FROM:	Jonathan Hassen and Wendy Londa
DATE:	December 10, 2012
RE:	Orange County Employees' Retirement System - Funding Policy Options

---

As requested, we have examined various funding policy options available to the Orange County Employees' Retirement System (OCERS) in light of the Plan's current funded position, employer contribution levels and market losses experienced in the last five years. The information below highlights possible options as well as their viability.

Funding Policy Options for OCERS

We have analyzed the impact on the Plan of nine funding policy changes. A few of these options are variations of the legal provisions in the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 ("PRA") as signed by President Obama on June 25, 2010. This legislation was passed in an effort to help fundamentally sound private sector pension plans which had become financially challenged by the economic downturn in the last few years. Although the law only applies to the private sector, some of the funding relief provisions would be considered reasonable for the public sector. The options we evaluated are as follows:

1. Restart the amortization period of all amortization bases to a fixed and declining 25-year period as of December 31, 2011 (25-year layered)[1].

2. Restart the amortization period of all amortization bases to a fixed and declining 30-year period as of December 31, 2011 (30-year layered).

3. Extend the amortization period for valuation value investment losses incurred in the 2011 Plan Year from 15 years to 30 years.

4. Smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.

---

[1] With the exception of actuarial assumption bases with amortization periods currently exceeding 25 years.

5. Smooth the market value investment loss incurred in the 2011 Plan Year over 10 years

6. Combination of options 1 and 4: restart the amortization period of all amortization bases to a fixed and declining 25-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.

7. Combination of options 1 and 5: restart the amortization period of all amortization bases to a fixed and declining 25-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 10 years.

8. Combination of options 2 and 4: restart the amortization period of all amortization bases to a fixed and declining 30-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.

9. Combination of options 2 and 5: restart the amortization period of all amortization bases to a fixed and declining 30-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 10 years.

As expected, the above options have a favorable impact on the employer contribution rate for the Fiscal Year beginning July 1, 2013, although to varying degrees. The estimated savings for General and Safety members combined are shown in the chart below.

Funding Option	***Estimated Reduction in Employer Contributions***	***Estimated Reduction in Employer Contribution Rate***
1[1]	$49,737,000	3.07%
2[2]	$74,494,000	4.60%
3	$12,530,000	0.77%
4	$3,300,000	0.20%
5	$5,775,000	0.36%
6	$52,073,000	3.22%
7	$53,825,000	3.32%
8	$76,600,000	4.73%
9	$78,179,000	4.83%

1 For Safety members, Option 1 (restart amortization over 25 years) is an estimated reduction in the Safety employer contribution of **$12,760,000** with an associated **3.44%** estimated reduction in the Safety employer contribution rate.

2 For Safety members, Option 2 (restart amortization over 30 years) is an estimated reduction in the Safety employer contribution of **$20,117,000** with an associated **5.43%** estimated reduction in the Safety employer contribution rate.

Although the PRA relief afforded to private sector multiemployer pension plans only offered relief for the two plan years ending after August 31, 2008, we have not priced any funding policy options specific to the 2008 and 2009 investment years in our analysis. Since the Plan incurred an investment loss in the 2008 calendar year and investment losses are recognized over 5 years (20% per year) for purposes of determining the valuation value of assets, the Plan has already recognized 80% of the $2.2 billion investment loss incurred in the 2008 Plan Year. The loss will have been fully recognized as of December 31, 2012. The Plan could retroactively utilize an extended amortization or smoothing period for the investment loss incurred in the 2008 Plan Year and apply the associated reduction as a credit to subsequent employer contributions. However, we have assumed this is not a desirable option for purposes of this analysis.

As a comparable alternative to the private sector pension relief offered for the 2008 and 2009 Plan Years, we have included in Options 3-5 the impact of recognizing the investment loss incurred in the 2011 Plan Year over an extended period. If the Plan were to incur a significant investment loss in a subsequent plan year, both years could be afforded some variation of pension relief. For your information, the chart on page 6 shows some modified versions of relief adopted by other major public retirement systems.

Additional discussion on these funding policy options is included below. Please note that the options presented in our analysis are for illustration only and other alternative funding policies may, for example, consist of combinations of the above.

Discussion of Options

Option 1 entails collapsing all current amortization bases, with the exception of actuarial assumption bases with amortization periods currently exceeding 25 years, into one base and amortizing that base over 25 years. Each new base resulting from actuarial gains or losses, assumption changes or plan provision changes would be amortized over the applicable OCERS stipulated period. The OCERS Plan currently amortizes changes in the unfunded actuarial accrued liability over various periods depending on the cause of the change. For instance, actuarial assumption changes are amortized over 30 years whereas experience gains or losses are amortized over 15 years. This option would mitigate the effect of any future losses incurred.

Option 2 is similar to Option 1 except that all current amortization bases would collapse into one base and be amortized over 30 years. Note that the Pension Relief Act of 2010 provided a one-time option to private sector defined benefit plans to amortize the investment losses incurred in the two plan years following August 31, 2008 over an amortization period of 30 years with all future bases amortized using current rules (generally over 15 years).

Under current Government Accounting Standards (GASB), a 30-year amortization period is considered acceptable. However, under new Government Accounting Standard guidelines (GASB 67/68, as amended by GASB 50), investment experience will need to be recognized over a 5-year period and demographic experience will need to be recognized over the average future working lifetime of plan participants. In general, the average future working lifetime varies by population but is generally 15-25 years. These new standards will take effect for fiscal years beginning after June 15, 2013 for pension plans and after June 15, 2014 for employers. Note that accounting compliance under GASB is completely separate from funding requirements and may be determined under different methodologies.

Option 3 isolates the valuation value investment loss incurred during the 2011 Plan Year and extends the time to amortize the loss to 30 years rather than 15 years as under the current funding policy. Note that the Plan incurred a total experience loss of $272.1 million in the 2011 Plan Year. However, this was comprised of an investment loss of $388.9 million offset by a demographic gain of $116.8 million. Under Option 3, the $388.9 million investment loss would be amortized over an extended period of 30 years to provide temporary relief.

Option 4 uniquely targets the market value investment loss incurred during the 2011 Plan Year by applying a smoothing period of 7 years rather than the current 5-year smoothing methodology in the determination of the valuation value of assets. Note that the smoothing period used to determine the valuation value of assets would revert back to the current 5-year smoothing methodology effective with the market value investment gains or losses incurred in the 2012 Plan Year. This would provide employers with additional time to pay off the 2011 asset loss.

Option 5 is similar to Option 4 but extends the smoothing period from 7 years to 10 years. As expected, this option provides further relief by spreading the market losses over 10 years; this is a reasonable time frame given the extent of the loss and comparability to private sector relief which also afforded pension plans with the option to smooth losses incurred in the two plan years ending after August 31, 2008 over 10 years. Bear in mind, this only affects the loss for the 2011 Plan Year. All future gains or losses would be smoothed according to the current method although future losses could also be smoothed over an extended period.

Options 6-9 are combinations of Options 1-2 and 4-5. These options involve combining the 25 or 30-year collapsed amortization of all bases along with a 7 or 10-year extended smoothing period of the investment loss incurred in the 2011 Plan Year for purposes of determining the valuation value of assets. In aggregate, these options produce the greatest cost savings although the savings are not significantly higher than Options 1 and 2 on a stand-alone basis. Note that PRA relief provided private sector plans with the option to both amortize net investment losses incurred in the 2008 and 2009 Plan Years over 30 years and to extend the smoothing period for recognizing such losses to 10 years. Options 6-9 are similar in nature to these relief provisions.

Amortization Options

Note that the amortization options included in this analysis (Options 1 and 2) are considered fixed and declining amortization methods or "closed" amortization periods. The base is initially established at the effective date and the calculated amortization amount covers both the interest and principal owed on the base. By the end of the 30-year amortization period, the amortization base has been fully paid off. This is the amortization methodology currently utilized by OCERS. Subsequent to the restart amortization of the unfunded actuarial liability established as of December 31, 2004 (currently amortized over 23 years), OCERS incorporated a "closed" layered approach for subsequent experience gains and losses. This results in a new amortization base each year to the extent unfunded liabilities differ from actuarial expectations. This base is amortized over 15 years which is similar in length to private sector multiemployer pension plans.

An alternative to the fixed and declining or "closed" amortization approach is a rolling or "open" amortization method. A rolling amortization method resets the amortization period to the stipulated period each year and replaces the previous year's base with a new or "open" amortization base. The drawback of a rolling or "open" amortization method is that the base never fully gets paid off because the amortization period resets each year. As a result, the amortization amounts are lower than under a fixed and declining method after the first year. This approach can be advantageous in difficult financial times because it provides the Plan with a longer period of time to recover from financial struggles. On the negative side, it can prevent a Plan from recognizing fruitful financial gains in periods of economic prosperity. Since our analysis of funding policy Options 1 and 2 reflects a fresh reset of the amortization period to 25 and 30 years as of December 31, 2011 respectively, there is no difference between the "closed" and "open" amortization approaches in the initial year of establishment. The difference in methods would only come into play in subsequent years to the extent the plan's unfunded liability deviated from actuarial expectations.

Consider the following examples of the estimated effect on the Plan's December 31, 2012 amortization payment if the Plan were to incur a valuation value investment loss of $500 million versus a gain of $500 million in the 2012 Plan Year assuming the Plan had previously established Option 2 as of December 31, 2011 (30-year restart amortization of all bases):

Amortization Method	***2012 Amortization with Valuation Value Gain of $500m in the 2012 Plan Year***	***2012 Amortization with Valuation Value Loss of $500m in the 2012 Plan Year***
Closed	$214,557,000	$303,591,000
Open	$225,932,000	$282,752,000

As shown above, an investment loss results in a lower amortization payment under the rolling or "open" amortization approach while an investment gain results in a lower amortization payment under the fixed and declining or "closed" amortization approach. Although public sector pension plans are generally considered ongoing plans and thus may reasonably select an "open" amortization period, we would not recommend this method over a period in exceed of 20 years. A 30-year rolling amortization period is simply too long in our view.

Other Major California Public Retirement Systems

For illustration purposes, we've listed below the amortization methods for experience gains and losses followed by a sampling of major public retirement systems in California based on their most recently published actuarial valuation reports. Note that there are certain exceptions and not all amortization bases are amortized over the stated period:

Public Retirement System	***Amortization Approach for Experience G/L***
LACERS	Switched from 5-year recognition of investment gains and losses to 7-year recognition in 2010. Combined bases and amortized over 30-year fixed and declining period in 2012. Subsequent gain/loss bases amortized over 15-year fixed and declining period (layered).
LACERA	30-year fixed and declining (layered).
SBCERS	Switched from 15-year fixed and declining period to 17-year rolling "open" amortization period in 2010.
VCERA	15-year fixed and declining period (layered).
SDCERS	15-year fixed and declining period (layered).
SFERS	15-year rolling "open" amortization period.

<u>Other Considerations</u>

One issue to keep in mind when selecting a funding policy is the potential for negative amortization. This occurs when scheduled amortization payments do not cover the interest accrued on the outstanding balance (Unfunded Actuarial Accrued Liability, or UAAL). In this case, the amount by which the interest exceeds the payment is added to the outstanding balance, thus increasing the UAAL. Although negative amortization is not a desired feature of an amortization schedule, it is important to note that the long-term health of the Plan should be the main focus. If the funded ratio continues to improve and contributions are at a manageable rate, negative amortization is acceptable for a short period of time.

Note that, as of December 31, 2011, certain existing amortization bases are operating in a negative amortization environment and there is the potential for negative amortization under a combined amortization funding policy approach. Depending on future investment and demographic experience, a minimum funding requirement may be considered such as interest on the UAAL.

In the December 31, 2011 actuarial valuation, several assumptions were updated by the actuary and the impact of those changes was amortized over a 30-year period allocated among general and safety member participant groups. At the time, the investment return assumption was maintained at 7.75% although the actuary recommended a reduction in the assumption. However, we understand that OCERS recently voted to lower the investment return assumption by 50 basis points. This reduction in the investment rate assumption will further increase actuarial liabilities and employer contributions. To prevent significant increases in the contribution rate due to pivotal assumptions such as the investment return assumption, some systems have opted to phase-in the effect of the change over a period of years. These assumptions should continue to be monitored and reviewed for reasonability

We are available to discuss the options or other analysis included in this memo in further detail. Please let us know if you have any questions.

APPENDIX

ASSOCIATION OF ORANGE COUNTY DEPUTY SHERIFFS

STATEMENT OF ACTUARIAL OPINION

The analysis presented in this memorandum is based on the information included in the actuarial valuation reports for the Orange County Employees' Retirement System for the 2010, 2011 and 2012 Plan Years as well as the actuarial assumption review for the December 31, 2011 actuarial valuation as prepared by The Segal Group, Inc. All data, methods and assumptions are the same as used in the December 31, 2011 actuarial valuation, except where noted otherwise.

Future actuarial measurements may differ significantly from the current measurements presented in this memorandum due to factors such as plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this letter are for purposes of determining alternative funding policy options. The calculations in this letter have been made on a basis consistent with our understanding of OCERS current funding requirements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this letter. Accordingly, additional determinations may be needed for other purposes. Rael & Letson's work is prepared solely for the internal business uses of the Association of Orange County Deputy Sheriffs. Rael & Letson's advice is not intended to be a substitute for qualified legal or accounting counsel. Note that we have not explored any legal issues with respect to the proposed funding policy options.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this funding policy options memorandum is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are actuaries for Rael & Letson, are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Certified by:______________________________ E.A., F.C.A., M.A.A.A.
Jonathan Hassen
Enrolled Actuary No. 11-07913

Reviewed by: Wendy Londa ______________________________ E.A., A.S.A., F.C.A., M.A.A.A.
Wendy G. Londa
Enrolled Actuary No. 11-07600

RAEL & LETSON
CONSULTANTS AND ACTUARIES

SEGAL

THE SEGAL COMPANY
100 Montgomery Street Suite 500 San Francisco, CA 94104-4308
T 415.263.8200 F 415.263.8290 www.segalco.com

VIA E-MAIL AND USPS

May 16, 2013

Mr. Steve Delaney
Chief Executive Officer
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701-3101

Re: Comments Related to Memo Prepared by Rael & Letson

Dear Steve:

As requested, we have provided our comments related to the memo prepared by Rael & Letson (the actuary retained by the Association of Orange County Deputy Sheriffs) dated December 10, 2012. In that memo, Rael & Letson presented various options for consideration by the OCERS Board for changing either the smoothing of prior investment losses or the amortizing of OCERS' current Unfunded Actuarial Accrued Liabilities (UAAL), along with combinations of both changes.

Asset Smoothing Periods

Currently, a five-year period is used by the Board to smooth out any annual investment gains or losses before such amounts are recognized in the UAAL and amortized as part of the employer's contribution rate. In the Rael & Letson memo, they suggest using a longer smoothing period only for the 2011 investment losses, which would recognize that year's losses over either seven or ten years. Any investment gains after 2011 would still be smoothed over five years; however, according to Rael & Letson, "future losses could also be smoothed over an extended period".

We recommend against these proposals because they would result in investment gains being targeted for faster recognition than investment losses. This would result in an asset smoothing method that would be biased relative to the market value in that it would be expected to produce values systematically higher than market value even if average investment returns match the assumed return used in the smoothing method. Such a biased method would be inconsistent with generally accepted actuarial practices.

Amortization Periods for UAAL

The Rael & Letson memo also provided options where the employer's contribution rates may be temporarily reduced (in exchange for higher contributions later on) by using longer periods of 25 or 30 years to amortize the System's current UAAL. These proposals are slight variations to alternatives that we have already provided for consideration by the Board. Please refer to slide 47 of our March 18 PowerPoint presentation (which was also discussed on April 15), where we show the effect of reamortizing the current UAAL over 25 or 30 years.

We estimated that reamortizing the December 31, 2011 current UAAL over 30 years would reduce the average employer contribution rate by 4.7% of payroll. That result is comparable to the 4.6% of payroll rate reduction estimated by Rael & Letson under their Funding Option #2. We also showed that reamortizing the December 31, 2011 UAAL over 25 years would reduce current costs by 2.9%. This differs from the Rael & Letson result of 3.07% under their Funding Option #1 only because they have excluded any current amortization layers with amortization periods longer than 25 years. As we have discussed with the Board, if this is the Board's intent then similar results could be obtained in a more straightforward manner by reamortizing the current UAAL over some period between 25 and 30 years.

Please let us know if you have any comments or questions.

Sincerely,

Paul Angelo

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Andy Yeung

Andy Yeung, ASA, MAAA, EA
Vice President and Associate Actuary

AYY/gxk

cc: Brenda Shott
Julie Wyne

DISCUSSION CALENDAR - AGENDA ITEM NO. 4
BUDGET AND FINANCE COMMITTEE MEETING
July 10, 2013

TO: Budget and Finance Committee, Orange County Fire Authority

FROM: Lori Zeller, Assistant Chief
Business Services Department

SUBJECT: **Internal Control Review on Billing and Revenue Recognition of Fire Prevention Fees**

Summary:
This agenda item is submitted to present the independent accountants' Agreed-Upon Procedures report of OCFA's internal control review on Billing and Revenue Recognition of Fire Prevention Fees.

Recommended Actions:
Review the proposed agenda item and direct staff to place the item on the agenda for the Board of Directors meeting of July 25, 2013, with the Budget and Finance Committee's recommendation that the Board of Directors take the following actions:

1. Direct staff to implement the recommendations as stated in the attached report.
2. Authorize staff to obtain the professional services of a Finance Manager to assist with the implementation of the recommended actions and to assist in strengthening the overall internal control environment surrounding fee-funded programs.
3. Direct staff to increase General Fund (121) appropriations in the FY 2013/14 Adopted Budget by $100,000 to cover the cost of a temporary and part-time Finance Manager.

Background:
At the March 14, 2012, Budget and Finance Committee meeting, the Committee approved the selection of Lance, Soll & Lunghard, LLP (LSL) as the auditing firm to complete a comprehensive review of OCFA's financial internal controls over the next three years. At the February 13, 2013, and March 13, 2013, Budget and Finance Committee meetings, the Committee approved the scope of work for the first year of the comprehensive internal control review. The scope included the following areas:

1. Revenue Recognition - Fire Prevention Fees
2. Procurement/Disbursement Practices Relating to Cal Cards (credit cards), Travel-Related Activities, and Fuel Usage
3. Purchasing/Procurement Review

Review of Internal Controls on Billing and Revenue Recognition of Fire Prevention Fees
LSL conducted test work for the review of Billing and Revenue Recognition of Fire Prevention Fees in March 2013. Upon completion of its test work, LSL compiled a report of findings and submitted it to the OCFA for preparation of management responses. A copy of the report along with OCFA's management responses is attached.

Implementation of the Proposed Recommendations
Since the proposed recommendations include implementation of changes to our workflow and business practices, LSL recommends OCFA consider obtaining the expertise of a specialist to help implement the changes. Staff recommends obtaining the professional services of a Finance Manager classification to help implement the proposed recommended actions. The position will be structured as temporary and part-time, with an estimated duration of six-months to one-year. Depending on the number of hours that are ultimately committed to the assignment, the cost is estimated between $70,000 -$140,000.

Status on the Other Two Internal Control Review Areas
The audit test work for the Procurement/Disbursements Practices Relating to Cal Cards (credit cards), Travel-Related Activities, and Fuel Usage and the Purchasing/Procurement Reviews have been completed. The independent audit reports and associated management responses for these two reviews are currently being completed, and the results will be presented at the August 14, 2013, Budget and Finance Committee Meeting.

Impact to Cities/County:
Strengthening internal controls surrounding fee-funded programs will improve accountability to our member agencies and the citizens/businesses served by the OCFA.

Fiscal Impact:
A $100,000 increase is requested to General Fund (121) appropriations in the FY 2013/14 Adopted Budget to cover the cost of a temporary and part-time Finance Manager to assist in building a stronger internal control environment surrounding fee-funded programs.

Independent Auditor (Lance, Soll & Lunghard, LLP) Contact for Further Information:
Bryan Gruber, CPA
bryan.gruber@lslcpas.com
(714) 672-0022

Staff Contacts for Further Information:
Laura Blaul, Assistant Chief/Fire Marshal, Fire Prevention Department
laurablaul@ocfa.org
(714) 573-6018

Lori Zeller, Assistant Chief/Business Service Department
lorizeller@ocfa.org
(714) 573-6020

Jim Ruane, Finance Manager/Auditor
Finance Division
jimruane@ocfa.org
(714) 573-6304

Attachment:
Agreed-Upon Procedures Review on Billing and Revenue Recognition of Fire Prevention Fees with OCFA responses

Attachment

LSL
CERTIFIED PUBLIC ACCOUNTANTS

ORANGE COUNTY FIRE AUTHORITY

Independent Accountant's Report on Applying Agreed-Upon Procedures on Billing and Revenue Recognition

March 29, 2013

Lance Soll & Lunghard, LLP

Orange County
Silicon Valley
Temecula Valley

www.lslcpas.com

LSL
CERTIFIED PUBLIC ACCOUNTANTS

- David E. Hale, CPA, CFP
- Donald G. Slater, CPA
- Richard K. Kikuchi, CPA
- Susan F. Matz, CPA
- Shelly K. Jackley, CPA
- Bryan S. Gruber, CPA
- Deborah A. Harper, CPA

Brandon W. Burrows, CPA, Retired

**INDEPENDENT ACCOUNTANTS' REPORT
ON APPLYING AGREED-UPON PROCEDURES**

Jim Ruane, Finance Manager / Auditor
Orange County Fire Authority
Irvine, California

We have performed the procedures enumerated in the Billing and Revenue Recognition section below, which were agreed to by the Orange County Fire Authority, solely to assist you with respects to the billing and revenue recognition, recordkeeping and retention, reporting and reconciling practices of the Orange County Fire Authority's Fire Prevention Department ("Fire Prevention"). The agreed-upon period, in which was examined, was from July 1, 2011 to March 19, 2013. Orange County Fire Authority's management is responsible for the policies and procedures of the Fire Prevention Department. We have also performed a review of Fire Prevention's control structure as outlined in the Internal Control section below; which was agreed to by the Orange County Fire Authority, solely to assist the organization in evaluating its internal control structure applicable to the *Committee of Sponsoring Organizations (COSO)* internal control framework.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of Orange County Fire Authority. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

BILLING AND REVENUE RECOGNITION

<u>Front Counter Procedures</u>

1. We obtained copies of policies and procedures and conducted interviews of fire prevention personnel to gain an understanding of responsibilities and processes surrounding the intake of service request for fire prevention plan reviews for new construction; and to ensure that the appropriate number of staff members and levels of authority exist to support an appropriate control environment.

   Observation: While the department has the appropriate number of staff in place and appropriate levels of authority to support an appropriate control environment; during our observation we noted that an individual was not charged with supervising the daily activities of front counter staff. This is due to the front counter Management Assistant (MA) position being vacant.

   Evaluation: A daily review of inputted information into the operational control database is essential to sustaining the integrity and validity of information entered into the application. In addition, having a second level of review provides a key control in monitoring, and ensuring that objectives are being met on a daily basis.

Recommendation: We recommend that in lieu of fulfilling the vacant MA position, daily front counter operations are supervised by the Deputy Fire Marshal (DFM), or an individual designated by the DFM and completely separate from the daily front counter operations. This person should be responsible for ensuring that information entered into Integrated Fire Prevention (IFP) is complete and accurate.

Response: The MA position has been filled through in-house promotion. The new MA is responsible for the daily operations of the Front Counter. In response to the auditors recommendations the Front Counter will now be overseen by an AFM whose primary responsibility will be the integrity and validity of information entered by Front Counter staff. This AFM will be developing a policy outlining the frequency of data reviews.

2. We selected a sample of service request for plan reviews to ensure that information inputted into the IFP program was correct and accurate; reflecting the services needed.

Observation 1: During our observation, it appeared that Service Request (SR) forms for plan reviews were used out of sequence. In addition, it was unclear during our observation if staff were following policies that would require SRs to be used in sequential order, or if an individual had been assigned with ensuring that the daily input of SRs are used in sequential order. We were able to identify that 24% or 1,718 out of 7,235 of the SRs created between July 1, 2011 and March 19, 2013, were missing from the sequence; and there was no evidence to support the reason why the SRs were used out of sequence.

Evaluation: Using SR control numbers in sequential order and having a process to ensure that SRs entered into IFP are in sequential order ensures that all plan reviews have been identified and accounted for. In addition, it is both a preventive and detective control to eliminate the potential risk of errors or fraud through the circumvention of other processes such as plan reviews and inspections. It establishes accountability for the new construction plan review process.

Recommendation: We recommend that on a daily basis, SRs created are reviewed by a staff member outside of the daily front counter intake process. This individual would be responsible for the ordering of SRs; in addition, on a daily basis this individual would review SRs created in IFP and determine if SRs were used and entered in sequential order; investigating any SRs missing or used out of sequence.

Response: Due to current software and logistical limitations, we are not currently able to issue SR's sequentially. Currently each of our partner cities has NCR SR forms at their front counters which are handed out to contractors to fill out. NCR SR forms have unique SR numbers pre-stamped on each form. Additionally, we have several repeat contractors that have multiple projects over multiple areas. For efficiency purposes, these individuals maintain a supply of forms at their offices. Furthermore, it's not uncommon for a mistake to be made during the filling out of an NCR SR forms. The current practice is to discard mistakes. It's anticipated that the new RMS software will issue SR numbers as they are entered into the system eliminating this problem. Prior to the implementation of the new RMS system, the AFM identified above will be responsible for evaluation of SR information to ensure accuracy and consistency of the data.

Observation 2: During our observation, it appeared that front counter personnel did not follow Fire Prevention's policy on ensuring that project information from SR forms entered into IFP are entered correctly. In addition, due to a staff vacancy, supervision of daily inputs into IFP to ensure the accuracy of information entered into IFP was limited. As a result, there were SR numbers inputted incorrectly into IFP and did not agree with the physical forms. Out of 40 SRs sampled, SRs 1722223, 1809923 and 1824823 did not agree with physical forms.

Evaluation: SRs are control numbers that are used to identify new construction plan reviews, they are used throughout each process and sub-process within the Planning and Development Department. It is essential in ensuring that SRs agree with actual physical documentation. In addition, having a monitoring or review process in place that would detect errors or irregularities to these records.

Recommendation: We recommend that daily starting and ending SRs are reviewed, and agreed to physical documentation, separate from an individual inputting the information into IFP to ensure accuracy and completeness of records.

Response: See Response above.

3. We selected a sample of daily deposits and performed walkthroughs of the payment acceptance process; documenting how payments were inputted and communicated to the Finance Department in an accurate and timely fashion.

   Observation: Please refer to procedure 6 below regarding proper segregation of duties.

4. Using the above sample we traced and agreed amounts to the Banner System to ensure that payments were recorded accurately and on a timely basis.

   Observation: No observations were noted during the performance of this procedure.

5. We determined, through general observation, how SRs were maintained and retained in relation to the Orange County Fire Authority's Record and Retention Policy.

   Observation: During our observation it appeared that certain fields in SR forms were still editable after the SR had been complete and finalized. According to FP's policy, the IFP application should not allow for edits to SRs after the SR had been finalized; IFP program allows for archiving of SRs.

   Evaluation: It is vital that information for completed new construction reviews are properly archived in the IFP program to ensure the accuracy on services that were performed are archived in accordance with the OCFA's record retention policy. New construction plans are required to be kept for a period two years after the completion of the project.

Recommendation: Complete and closed plan reviews should be reviewed by management in regards to archiving records. We recommend management develop a process to ensure that completed SRs are properly archived.

Response: The new AFM responsible for Front Counter oversight and quality control will be responsible to implement a process ensuing that completed SR's are properly archived.

6. Through observations we reviewed the access rights to the IFP program for front counter staff, ensuring that the proper segregation of duties exist surrounding the intake processes.

Observation: Fire Prevention Specialist (FPS) that intake new plan review service requests, also have the ability to accept payments and apply credits to SR records.

Evaluation: To have the proper level of segregation of duties, individuals accepting payments and entering payments into the IFP application should not have access to modify or edit the same information. Lack of such control is an increased risk of misappropriation of assets.

Recommendation: The current procedures need to be revised to prevent individuals who accept and apply the payments into the IFP program from applying adjustments and editing information. All edits and adjustments should be made by separate individuals with the proper oversight from management.

Response: Once plans have been entered by the FPS, they are reviewed by a Fire Prevention Analyst who reviews the information entered by the FPS. If the fee information is erroneous the Analyst will update the information. Once the Analyst approves the plans and the final fees are determined, only a P&D supervisor can change the fee. Policies will be developed that provide for additional oversight and/or approvals whenever payments or credits have been accepted at the Front Counter.

Plan Review

7. Through interviews and observations, we obtained an understanding of the plan review process to ensure there is an appropriate level of staff and delegation of authority on the assignment of plan reviews; as well as the monitoring of plan reviews.

Observation: Plan reviews are conducted by individual Fire Prevention Analysts (FPA) that may have specific development service knowledge. The FPA has the sole authority to approve new plan constructions without any oversight or quality control review. This includes plan reviews performed by FPAs at satellite locations. In addition, FPAs have the ability to change plan review codes without any level of approval.

Evaluation: Lack of a review or approval process on plan reviews increases the potential of plan reviews being conducted inaccurately, and in addition provides for the opportunities of fraud. A FPA has the ability to approve a plan at lower fee rates or circumvent the need for additional plan reviews to be conducted without any oversight.

Recommendation: A quality control process should be implemented where a second level of review or authority is in place over plan reviews, and any adjustments made to plan review SR codes.

Response: Supervisors will be developing plan review quality control procedures that will require supervisor approval before any fees are adjusted by staff.

8. We selected a sample of completed plan reviews to ensure that the plans were completed in a timely manner or at the agreed upon turnaround time.

   Observation: No observations were noted during the performance of this procedure.

9. We selected a sample of service review requests between the period of July 1, 2011 and June 30, 2012, to ensure that those plan reviews were completed prior to June 30, 2012.

   Observation: No observations were noted during the performance of this procedure.

10. We selected a sample of SR plan reviews and tested the controls surrounding the approval and documentation of change in PR fees.

    Observation: Per our observation, it appeared that FPSs, both at the front counter and plan review processes, were not following a policy that would require a second level of oversight or approval for PR fees code in SRs that were reversed or changed, prior to changing the PR fee code in the SR.

    Evaluation: Changes to PR fee codes ultimately effects revenue earned on those services and should be limited to individuals separate from the data entry process and that have the proper level of authorization to approve the changes. Having such a level of authority would decrease the potential risks of fraud.

    Recommendation: A quality control process should be implemented to ensure all changes or reversals of PR fee codes are properly approved prior to the change in the IFP program.

    Response: Supervisors will be developing quality control procedures checking for accuracy of PR codes to plans.

11. Interviewed staff, and performed an observation of the approval process on adjustments such as credits or reversals surrounding plan reviews; and how the information is documented and communicated to the Finance Department.

    Observation: Please refer to the pervasive observation at step 10, regarding quality control reviews and segregation of duties, as an observation at this procedure.

12. We selected a sample of SRs with adjustments and compared those amounts to adjustments recorded in Banner to ensure that those adjustments were properly recorded.

    Observation: No observations were noted during the performance of this procedure.

Scheduling

13. Through interviews and observation we gained an understanding on how completed plan reviews are scheduled for inspection.

    Observation: We noted through discussions with scheduling personnel and management team members, that there are aging SRs that successfully completed all plan reviews and have not been scheduled for inspections due to project contractors not contacting Fire Prevention to schedule the inspections. The largest reason for SRs remaining unscheduled is due to new construction projects being placed on hold and not being completed for the inspections to take place. Through these discussions, it appeared that Fire Prevention does not have a process in place to follow-up on aging plan reviews, to determine if inspection charges need to be refunded to businesses, or if the inspections will actually take place.

    Evaluation: Incorporating a pro-active approach in scheduling inspections allow for the Planning and Development Department to tentatively schedule inspections and develop proper revenue projections for those projects. In addition, it provides an extra detective control to mitigate the risk of fraudulent activity.

    Recommendation: For open projects that exceed a specific timeframe (i.e. one year), management should consider following up with project contractors on the status of the project and place notes within the IFP program; tracking dates and times contractors were contacted and results of correspondence.

    Response: Aging or tracking reports will be developed to track construction projects that have not been completed. Planning and Development will be working with Finance on processes to contact individuals that submitted the plans.

14. We selected a sample of scheduled inspections to ensure that the scheduled inspection was communicated to the assigned inspector in a timely manner.

    Observation: No observations were noted during the performance of this procedure.

15. Through inquiry of new construction personnel and observations, we reviewed the policies and procedures surrounding cancelled inspections and plan reviews to ensure cancelled inspections were properly approved by the Assistant Fire Marshal and communicated to the Finance Department accurately and in a timely manner.

    Observation: No observations were noted during the performance of this procedure.

New Construction Inspections

16. We performed inquiries of field inspectors and fire marshals regarding processes on assigning inspections and documenting the results of inspections.

    Observation: No observations were noted during the performance of this procedure.

17. We performed inquiries of fire marshals regarding the monitoring of field inspections ensuring that all inspections are conducted in a timely manner.

    Observation: No observations were noted during the performance of this procedure.

18. We selected a sample of completed new construction inspections and determined if the results of the inspections were properly documented in the IFP program and communicated to contractors in a timely manner.

    Observation: No observations were noted during the performance of this procedure.

19. We selected a sample of completed inspections to ensure that inspections were conducted after plan reviews were complete.

    Observation: No observations were noted during the performance of this procedure.

Code Enforcement

20. We conducted interviews of field inspectors and Office Service Specialist (OSS) to obtain an understanding of policies and procedures in place on how staff and management document or administer the issuance of annual fire code permits. Based on these discussions evaluate that the appropriate levels of staff are in place to encourage a reliable control environment.

Observation: Based on our observation it was difficult to determine if management reviewed and approved the status of annual inspections from the IFP program. While it was obvious that management used a SharePoint tool to determine the status of the inspections; it was very difficult to determine if inspection results on SharePoint agreed or was evidenced by the information in the IFP program.

Evaluation: Updating inspection results and time spent on completing the inspection is essential to validating the costs associated to conduct inspections.

Recommendation: We recommend that management develop a review process to ensure that inspection status and inspection results are inputted into the IFP program. Each field inspector should be held responsible for updating inspection results; with management verifying the results in IFP.

Response: For clarification, I assume that Code Enforcement refers to the Fire Safety Specialist team and not the firefighters conducting field inspections. The SharePoint tool is a disposition tracking tool to view the progress of the inspection workload, not necessarily to quality control the record in IFP. The purpose is not a quality control tool to confirm IFP accuracy. The inspection form itself (FIF) is reviewed and accepted by the division Assistant Fire Marshal before the SharePoint entry is made and before the FIF is data entered into the system. Confirming that the approved data actually is data entered into IFP would require a random quality control check by the Assistant Fire Marshal in each division office. This is an easy task to incorporate.

21. We conducted interviews of OSS personnel regarding the data entry procedures on annual inspection results and issuance of permits. Based on our inquiries we evaluated whether the appropriate controls are in place to ensure the accuracy of permit information and inspection results.

Observation: Based on our observation, it was unclear if inspections were being conducted in a timely manner. It was difficult for us to use the information in the IFP program, to determine if inspections that were required to be conducted during specific quarters, were actually conducted during those quarters.

Evaluation: Fire prevention code enforcement needs a strong process to ensure documentation on tracking inspections and results of inspections are accurate, complete and informative. This is an essential process in the Fire Prevention Department.

Recommendation: To ensure that annual inspections are being conducted on time and the status of those inspections updated in IFP in a timely fashion, we recommend that management obtain weekly reports exported from IFP to determine the status of annual inspections required to be conducted during that quarter.

Response: The inspection workloads whether in Prevention or in Operations are no longer issued in quarters. Time frames for anticipated completion are announced through an annual memo from the Operations Chief. The SharePoint tracking tool mentioned above does a good job of tracking progress as well as date of data entry. The date of data entry of inspection completion on the SharePoint tool is actually a data drop directly from IFP.

22. We performed inquiries and walkthroughs on data entry procedures for businesses that have an annual inspection on fire code enforcement and issued a permit. In addition, we selected a sample of these businesses to determine that inspections were performed prior to permits being issued.

Observation: Fire Prevention issues approximately 5,600 permits to 4,500 businesses on an annual basis. During our observation, it appeared that annual inspections were updated into the IFP program at dates later than the required inspection date.

Evaluation: Issuing permits without having timely information readily available as evidence that an inspection had occurred can be detrimental to the safety of Orange County residents. While inspections may have been performed, having accurate information to support the dates and times that inspections were complete is essential.

Recommendation: We recommend that management develop supervision and review procedures that on a daily basis ensure inspections that were performed have been properly updated in the IFP program.

Response: Clarity is needed to understand the term "required inspection date". If the observation is that the data entry into IFP is too long after the actual inspection, our new policy for this next fiscal year to review inspection activity at the end of each day, forward to data entry or return to the Specialist for follow up. As for the Operations inspection workload that comes in from the field, again the SharePoint tool assists us is seeing final inspection date and then the following data entry date directly from IFP. This creates a process that is an easy daily check for work flow.

23. We obtained a list of Hazmat billings for the period ending June 30, 2012 and compared that list to permit fees charged to each inspection record for the same period to determine the status of those inspections.

Observation: No observations were noted during the performance of this procedure due to billings for 2012 HMD being suspended until July 2013.

24. We selected a sample of FIF reports and determined that the business information on the reports were properly updated into the IFP program in a timely manner, and information was inputted into IFP prior to the release of respective permits to businesses.

Observation: From our observation it appeared that due to the limitation of the IFP program, it was difficult to determine which FIFs were not updated in a timely manner. While IFP provides a detailed history of permits issued and dates that permits were issued and updated, only the latest inspection date is maintained in IFP. Due to this limitation, we were only able to examine the annual inspection periods of 2012 and 2013. Per our observation of the FIF status report from IFP, 216 inspection records were updated 30 days or more after the inspection occurred.

Evaluation: Having reliable, up to date information is critical in the success of a program or department. It provides efficiency, in addition, helps management effectively supervise.

Recommendation: On a periodic basis, management should review the status of FIFs for businesses that were issued permits during that period and compares that date to the date that the FIF was updated into IFP to ensure that management is relying on timely and accurate information on inspection results.

Response: There are two ways of verification as to the timeliness of data entry and the related permit issuance. The SharePoint tool provides front line entry of the date of inspection and IFP drops the final data entry date. The other is a periodic random backlog check at each division office by the Assistant Fire Marshal. We are also working with Operations to accelerate the movement of inspection forms from the station to the data entry locations through addition of a QC function at the Battalion Chief level.

25. Through inquiry and observation we obtained an understanding of Fire Preventions process of ensuring that information for businesses that have hazardous materials disclosure requirements are properly updated in the IFP program and, if applicable, match the results of annual permit inspections for hazardous materials.

Observation: Based on our observation, it appeared that the IFP application is limited and does not spare redundant entry between the two SES modules, inspection support and HMD disclosure. As a result, information entered into the Inspection Support Module may not necessary be captured or be updated in the H.M. Disclosure module for businesses that require Hazardous material disclosures. In addition, the SR Module for New Construction Inspections does not automatically relay information to the Inspection Support module for future tracking of needed annual inspections. As a result, manual processes have been put in place to compensate for this limitation in IFP.

Evaluation: For efficiency purposes being able to eliminate manual entry processes as much as possible is always desired in an effective control structure. IFP modules should communicate with each other to protect the integrity of information.

Recommendation: Per our understanding, a new fire prevention ERP application will be implemented in the near future. We recommend that management ensure that the new database has the capability to streamline information (i.e. automatic interface) between modules, eliminating as many manual entry processes as possible. In the meantime, management should develop a process to ensure that information and results are being inputted into each module accurately and timely.

Response: Noted, management will work to ensure this capability exists in the new system. Again a random sampling will be reviewed to ensure quality entry in all modules until the new system is on line.

26. We obtained and discussed through inquiry with fire prevention personnel, the policies and procedures for monitoring annual inspections; to determine if such information was properly supported by records and other information.

Observation: During our observation it appeared that the integrity of the information used by the Deputy Fire Marshal in monitoring inspection results may not have accurately reflected information tracked and maintained in the IFP program. As a result, inspection results and directions placed by management to Fire Prevention Specialist to conduct inspections were not effective or efficient.

Evaluation: An efficient and effective process has quality monitoring controls in place to ensure that the integrity of information being used by management is accurate. Without accurate information, it is very difficult for management to effectively monitor and efficiently supervise departmental objectives and goals.

Recommendation: IFP allows for the tracking of inspection scheduling and the results of inspections. We recommend that management implement a process that will require a periodic review of information entered into the IFP program to ensure the accuracy of the information; following up with FPS on all irregularities.

Response: In the upcoming fiscal year a quality control process will be put into place where all inspection documents will be reviewed by the AFM for completeness and accuracy. Field BCs will review the work of firefighters and AFMs will perform a random recheck of that work.

27. We selected a sample of annual code enforcement inspections that were billed in the fiscal years 2013 and 2012; and using the IFP program, determined if inspections were conducted prior to the issuance of permits.

Observation: Based on our observation, it was very difficult to determine if permits were issued subsequent of the inspections due to the reliability of the information used. Please refer to the observation commented in procedure 22 above regarding the pervasive finding surrounding annual inspections.

Evaluation: The IFP application is the key application that communicates earned income to the Finance Department for billing. It is important that the IFP application accurately reflects all inspections conducted to validate as evidence for billing of permit and other administration fees.

Recommendation: We recommend that management develop supervision and review procedures that on a daily basis ensure that inspections that were performed have been properly updated in the IFP program.

Response: Noted. Discussed with division Assistant Fire Marshal team and we will implement random review of data entry processes.

28. We obtained a list of businesses that have an annual inspection scheduled for hazardous materials permits and for businesses that have an annual inspection scheduled for all other permits; for 2012, and determined the number of inspections remaining to be completed for fiscal 2012 as of March 19, 2013.

Observation: Per our observation, it appeared that over 800 annual inspections were still open to be conducted for 2012.

Evaluation: Developing procedures to encompass the use of the IFP database in determining if HCA pre-billings for period 2011-2012 had been earned is essential in the revenue recognition policy of OCFA.

Recommendation: We recommend that management review outstanding annual inspections and develop procedures to ensure that the annual inspections are completed prior to the billing date.

Response: The hazardous materials program is transitioning to HCA July 1. No other work is billed prior to initiation of the inspection. Only completed inspection work is entered into the system which then sends a message to Finance to generate a bill.

29. Based on procedure 28 above, we compared the total amount of annual inspections remaining to be conducted above and compared that amount to the general ledger to ensure that such amounts are either deferred and not accounted for as revenue as of March 19, 2013.

Observation: No observations were noted during the performance of this procedure.

Hazardous Materials Disclosure

30. Through interviews and walkthroughs, we obtained an understanding on how hazmat information is documented in detail in the IFP program. Based on our understanding, we obtained a list of annual disclosures that were completed as of March 19, 2013 and determined if disclosure information had been updated between July 1, 2012 and March 19, 2013.

Observation: No observations were noted during the performance of this procedure.

31. We selected a sample of businesses that require annual disclosure to ensure that disclosure thresholds have been meet and that amounts to be properly billed reflect mandated rates.

Observation: No observations were noted during the performance of this procedure.

32. We reviewed Fire Prevention's monitoring reports from SharePoint used by management and agreed that information to supporting records and information documented in the IFP program.

Observation: As noted in our observation at procedure 26, information in SharePoint that is used by management to monitor and supervise disclosure inspections, did not agree with the information entered in the IFP program. This is due to the IFP program not being updated in a timely fashion with inspection results.

Evaluation: Integrity and accuracy of information used to manage and supervise operations is a key control to an effective control structure.

Recommendation: IFP allows for the tracking of inspection scheduling and the results of inspections. We recommend that management implement a process that will require a periodic review of information entered into the IFP program to ensure the accuracy of the information; following up with FPS on all irregularities.

Response: Noted. The follow up would be between the Assistant Fire Marshal and the Office Service Specialist on a periodic basis. SharePoint is utilized as a tracking tool for disposition of the FIF. IFP is the final determining report of completeness that actually updates the SharePoint tracking tool.

CalARP

33. We conducted an inquiry with the Fire Systems Engineer responsible for oversight of the CalARP program; to determine CalARP plan procedures and levels of authority over the program.

Observation: Based on our observation, the CalARP program for OCFA appears to have a high level of dependency on the expertise of one individual, with little oversight on the progress or activities of the CalARP program.

Evaluation: The Engineer for the CalARP program appears to have a high level of integrity. However, establishing procedures for quality control and process review of the Engineers assessments and procedures will ensure continuity amongst companies in the program; also limit the potential risks of fraud.

Recommendation: CalARP requires a high-level skill set to run and manage. While, Fire Prevention has the appropriate individuals in place to efficiently run the program, we recommend OCFA consider using a third-party technical reviewer that on a periodic basis reviews the Department's policies and procedures and makes recommendations on the performance of the program. In addition, we recommend the Department to consider having additional staff involved in the program to reduce the level of dependency on the Fire Systems Engineer.

Response: The CalARP program is transitioning to OCHCA July1, 2013.

34. We conducted an inquiry with the Fire Systems Engineer, to determine how often CalARP companies are required to be inspected and audited; what information is used to document the result of the inspection and audits, and the review process of those inspections by Fire Prevention Management.

Observation: Per our observation, it appeared that the program is solely dependent on the Fire Safety Engineer and no day to day review procedures were in place to supervise the Engineers involvement with the 38 CalARP companies.

Evaluation: The CalARP program is a program that requires a very high level of expertise to understand and monitor. The dependency on a singular individual to manage and monitor this program represents a risk to the continuity and success of the program.

Recommendation: We recommend that management consider developing a process to increase their involvement in the CalARP program, in which, the Fire System Engineer direct supervisor is included in correspondence and field inspections of the CalARP companies.

Response: The CalARP program is transitioning to OCHCA July 1, 2013.

35. We selected a sample of 5 out of the 38 companies under the CalARP program and determined if inspections were conducted for fiscal years 2012 and 2013, and if applicable audits were conducted.

Observation: No observations were noted during the performance of this procedure.

36. Based on the above sample we determined if the fees associated with the CalARP materials are in agreement with the mandated rates and companies have been charged accordingly. In addition, we agreed the fee amounts to the Banner system to ensure the amount records in Banner were recorded accurately and timely.

Observation: No observations were noted during the performance of this procedure.

False Alarms

37. We conducted interviews of key personnel relating to the processes surrounding the administration of false alarms fees. To determine if the appropriate level or supervision and technical skills exist to monitor and administer the program.

Observation: During our observation, it appeared that incident types to false alarms were being coded late and incorrectly into the OCFIRS application. It appeared that this was due to fist response personnel not fully understanding the incident type to code to false alarms and having additional duties preventing follow-up of the incidents. Most of the incident types reviewed were closed in OCFIRS as long as 2 weeks after the incident took place; potential revenue loss in the ending period weeks of June 14–30 and December 15-31.

Evaluation: Coding incident types correctly into the OCFIRS is essential to revenue recognition of False Alarms. The OCFIRS application tracks occurrences on a six-month period and resets at the conclusion of the six-month period. Coding of incidents is left to the judgment of the responding personnel and highly subjective to judgment.

Recommendation: We recommend periodic training on OCFIRS coding of incidents and streamlining the codes available for false alarms. In addition, we recommend Fire Captains to review open false alarms codes on a weekly basis at a minimum to ensure that the codes are properly closed.

Response: The OCFIRS Steering Committee will work on a training program and a method to enforce the SOP regarding completion of reports. They will also identify an Operations-based QA process for select reports.

38. We reviewed the supporting documentation sent to the Finance Department for the billing of false alarm fees; and determined the appropriateness of the information sent to Finance for billing.

Observation 1: During our observation, it appeared that adjustments are made to customer accounts receivable balances after invoices are sent to the customers, due to incorrect coding. Per our observation, it appeared that this was primarily due to incident types being reviewed by Fire Prevention Specialist after Finance Department receives the occurrences.

Evaluation: An effective process has controls in place to detect errors prior to the submission of information for billings purposes. Detective controls include but are not limited to quality control reviews performed by expert staff and supervisors.

Recommendation: We recommend that prior to sending occurrences to Finance Department for billing, a fire prevention personnel signature, indicating that incident codes were reviewed and the fire prevention personnel agrees or disagrees with coding, is obtained.

Observation 2: Per our observation, we noted that service location addresses where not properly identified by the correct business name prior to submission to the office service specialist. In addition, properties that have more than one suite or apartment number or even address are not properly related to the property owner of those multiple addresses. As a result, system information in OCFIRS may not have been properly updated with the correct information, and bills are not sent to the correct party.

Evaluation: An effective process should have separate individuals initiating, processing, and approving processes. False alarms are dependent on a few individuals to submit information to accounting for billing with little to no approval.

Recommendation: We recommend that management implement a process that communicates the importance of First Response Personnel writing and obtaining the correct names of businesses and addresses of businesses.

Response: See #37 response.

Special Events

39. Through inquiry of key personnel, we obtained and documented the processes associated with the initiation, processing and authorization of permits for special events. To determine if the current process has the appropriate level of supervision and control structure.

Observation: While the initiation, processing and authorization process for the issuance of permits are separate, during our observation it appeared that the entire special event process was dependent on two individuals, with little quality control reviews performed outside of these two individuals.

Evaluation: Having processes dependent on two individuals within the same department increase the potential risk of fraudulent activity by providing the opportunity of collusion between the two individuals.

Recommendation: We recommend that management consider including a second level of approval, preferably a Deputy Fire Marshal, prior to the issuance of special event permits. In addition, we recommend management to consider applicants who wish to obtain a special event permit contact Front Counter Personnel for the initiation of the application.

Response: Noted. There is an Assistant Fire Marshal in direct supervision of both of these employees. A greater emphasis will be placed on their oversight responsibilities to ensure adequate internal controls over the issuance of special activity permits.

Information Technology

40. We obtained access rights for selected positions and employee classes in IFP and determined access rights that those classes of employees had within IFP. Based on the position and daily duties, in addition considering a segregation of duties, we performed access tests to determine if the access rights for each class were appropriate.

Observation: Please refer to procedure 6 above regarding proper segregation of duties.

41. We reviewed the OCFA's disaster recovery plan to ensure that the plan encompassed procedures to include the IFP application and Fire Prevention records.

Observation: No observations were noted during the performance of this procedure.

OVERALL RECOMMENDATION

We would like to commend OCFA Fire Prevention Department in taking the necessary steps in ensuring that the dynamics of the Department's processes are robust and comprehensive and that addresses key weaknesses. Fire Preventions acquisition of new technologies and development of additional management tools are keen steps in developing a strong control environment. We strongly encourage Fire Prevention to continue these steps and to consider obtaining the expertise of a Specialist to help review the workflow of information, prior to the implementation of these new technologies and tools.

We were not engaged to, and did not; conduct an audit, the objective of which would be the expression of an opinion on the internal controls of Orange County Fire Authority Fire Prevention Department. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the Orange County Fire Authority and is not intended to be, and should not be, used by anyone other than the specified party.

Lance, Soll & Lunghard, LLP

Brea, California
March 29, 2013

INTERNAL CONTROLS

The objectives of internal controls is to develop sounds practices and policies to ensure that transactions are properly recorded, accounted for correctly, executed in accordance with laws and regulations, and funds are properly safeguarded against potential risks of loss. The characteristics of internal control are presented in the context of the components of internal control discussed in *Internal Control-Integrated Framework* (COSO Report), published by the Committee of Sponsoring Organizations of the Treadway Commission. The COSO report provides a framework for companies to design, implement, and evaluate controls that will facilitate the before mentioned objectives of internal controls. COSO also has published *Guidance on Monitoring Internal Control Systems* (January 2009), which is available at www.coso.org/guidanceonmonitoring.htm.

The five components of the COSO framework were used to establish an understanding and to evaluate the internal controls surrounding policies and procedures of the Fire Prevention Department.

Control Environment

A successful control environment sets the tone of an organization influencing the control consciousness of its people. It is the foundation for all other components of internal control, providing discipline and structure. We noted the following improvements needed in Fire Preventions control environment for an effective control structure.

- Management ensuring that staff is knowledgeable about operational policies and procedures, and reporting requirements and being given responsibility to communicate all issues to management.
- Management's commitment to competence ensures that staff receives adequate training to perform their duties correctly, effectively and efficiently.

Risk Assessment

A risk assessment process is an entity's identification and analysis of risks relevant to achievement of its objectives, forming a basis for determining how the risks should be managed. We considered the following improvements needed in Fire Preventions Risk Assessment process to have an effective control environment:

- Controls are assessed on a regular basis to ensure that they are correctly and if applicable adaptability addressing changes in laws, regulations and industry needs.

Control Activities

Control Activities are the policies and procedures that help ensure that management's directives are carried out. We noted the following improvements needed in Fire Preventions Control Activities for a more effective control structure:

- Management's prohibition against intervention or overriding established controls.
- Adequate segregation of duties provided between performance, review, and recordkeeping of a task.
- Computer and program controls to include data entry controls and edit checks, exception reporting, access controls, reviews of input and output data.
- Regular meetings with the Board where financial information is reviewed in comparison to the results and accomplishments of activities.

Information and Communication

Information and Communication are controls used for the identification, capture and exchange of information in a form and time frame that enable people to carry out their responsibilities. We considered the following improvements needed in Fire Preventions Information and Communication processes for an effective control structure:

- Computer applications provide reports to accurately reflect the results of activities.
- Adequate source documentation exists to support amounts and items reports
- Reports are provided timely to managers for review and appropriate actions.
- Accurate information is accessible to those who need it.

Monitoring

Monitoring is a process that assesses the quality of internal control performance over time. We considered the following improvements needed in Fire Preventions monitoring environment for an effective control environment:

- Ongoing monitoring built-in through independent reconciliations, staff meeting feedback, rotating staff, supervisory review, and management review of reports.
- Periodic site visits performed by other departments or outside services and checks performed to determine whether procedures are being following as intended.
- Follow-up on irregularities and deficiencies to determine the cause.
- Internal quality control reviews performed.
- Routine Internal Audits performed to test compliance with applicable controls and policies.

ORANGE COUNTY FIRE AUTHORITY

CALIFORNIA

Est. 1995