

# **Sonoma County Employees' Retirement Association**

**Actuarial Valuation and Review as of  
December 31, 2015**



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.

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*April 27, 2016*

*Board of Retirement  
Sonoma County Employees' Retirement Association  
433 Aviation Boulevard, Suite 100  
Santa Rosa, CA 95403*

*Dear Board Members:*

*We are pleased to submit this Actuarial Valuation and Review as of December 31, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the fiscal year beginning July 1, 2017 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 financial information on which our calculations were based was prepared by SCERA. That assistance is gratefully acknowledged.*

*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.*

*The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board 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,*

*Segal Consulting, a Member of The Segal Group, Inc.*

By:   
\_\_\_\_\_  
*Paul Angelo, FSA, MAAA, FCA, EA  
Senior Vice President and Actuary*

  
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Vice President and Actuary*

*EK/hy*

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## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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### Purpose

This report has been prepared by Segal Consulting (Segal) to present a valuation of the Sonoma County Employees' Retirement Association as of December 31, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, retired members and beneficiaries as of December 31, 2015, provided by the Retirement Association;
- The assets of the Plan as of December 31, 2015, provided by the Retirement Association;
- 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 Association'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 Association's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be reasonably consistent, both internally and with prior years' information.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. Consistent with previous valuations, we have applied the funding policy adopted by the Board to amortize the Association's outstanding balance of the December 31, 2007 unfunded actuarial accrued liability (UAAL) as well as any new UAAL established on each subsequent actuarial valuation after the December 31, 2007 valuation over separate 20-year declining periods.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2017 through June 30, 2018.

## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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### Significant Issues in Valuation Year

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

- Reference:* Pg. 43 > The results of this valuation reflect changes in the economic and non-economic actuarial assumptions studied by Segal and adopted by the Board for the December 31, 2015 valuation. The Board adopted a 7.25% investment return assumption for this valuation. The other changes in assumptions were documented in our Review of Economic Actuarial Assumptions dated September 30, 2015 and in our Actuarial Experience Study dated October 2, 2015 and are also outlined in Section 4, Exhibit III of this report. These assumption changes resulted in an increase in the aggregate employer contribution rate of 2.29% of payroll and no change to the aggregate average employee contribution rate.<sup>1</sup>
- Reference:* Pg. 20 > The ratio of the valuation value of assets to actuarial accrued liabilities decreased from 86.3% to 84.9%. The funded ratio  
*Reference:* Pg. 36 measured on a market value basis decreased from 91.4% to 84.7%. The Association's UAAL increased from \$343.0 million as of December 31, 2014 to \$405.9 million as of December 31, 2015. The increase in UAAL is primarily due to the change in the actuarial assumptions in the December 31, 2015 valuation. A complete reconciliation of the Association's unfunded actuarial accrued liability is provided in Section 3, Exhibit H.
- Reference:* Pg. 18 > The average employer contribution rate calculated in this valuation increased from 18.76% of payroll to 20.38% of payroll. This change was primarily due to: (i) change in actuarial assumptions, offset to some degree by (ii) investment return (after "smoothing") higher than the 7.50% return assumption used in the December 31, 2014 valuation, (iii) lower than expected individual salary increases during 2014, (iv) decrease in UAAL rate due to higher than expected increases in total payroll, (v) actual contributions more than expected, (vi) demographic changes, (vii) County's additional UAAL payment, and (viii) other experience gains. A complete reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 14).
- Reference:* Pg. 19 > The average member rate calculated in this valuation has decreased from 11.75% of payroll to 11.72% of payroll primarily due to demographic changes. A complete reconciliation of the Association's average member rate is provided in Section 2, Subsection D (see Chart 15).
- Reference:* Pg. 6 > As indicated in Section 2, Subsection B (see Chart 7) of this report, the total unrecognized investment loss as of December 31, 2015 was \$6.9 million (as compared to an unrecognized gain of \$126.3 million in the December 31, 2014 valuation). This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes over the next few years, and will offset a portion of any investment gains that may occur after December 31, 2015. This implies that earning the assumed rate of investment return of 7.25% per year (net of expenses) on a **market**

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<sup>1</sup> It should be noted that some of the individual employee rates go down slightly (General Plan A for the County and the Court) while others go up slightly.

## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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**value** basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed 7.25% rate and all other actuarial assumptions are met, the contribution requirements would generally increase in the next few years. The potential impact associated with the deferred investment gains may be illustrated as follows:

- If the net deferred losses were recognized immediately and entirely in the valuation value of assets, the funded ratio would decrease from 84.9% to 84.7%.
- If the net deferred losses were recognized immediately and entirely in the valuation value of assets, the aggregate employer rate would increase from 20.4% to 20.5%.

*Reference:* Pg. 6

- The amount of deferred returns that would be recognized in each of the next four valuations is provided at the bottom of page 6. It should be noted that according to that schedule, the Association would recognize two years' of deferred gains (each of which is greater than the current deferred loss of \$6.9 million) followed next by the recognition of two years' of deferred losses (each of which is less than the current net deferred loss of \$6.9 million). We believe it would be appropriate to take the \$6.9 million in deferred losses and instead recognize those in four level amounts of about \$1.7 million each year. This would reduce the volatility associated with the pattern of deferred loss recognition and result in both more stable projected funded ratios (on a valuation basis) and more level employer contribution rates. We would be available to work with the Association staff to develop that recommendation for the Board's consideration well in advance of the next valuation.
- The actuarial valuation report as of December 31, 2015 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.
- Safety-County members pay an additional contribution amount equal to 3.00% of payroll effective February 1, 2005.
- General-County and General-Court members pay an additional contribution amount equal to 3.03% of payroll from July 1, 2004 to June 30, 2024. Effective July 1, 2024, the employer contribution rate will have to increase to offset for this expiration of the 3.03% rate paid by the General-County and General-Court members.

*Reference:* Pg. 35

- In this report, we have provided the amount of transfer that would be required to "true-up" the COLA and the Retired Member reserves so that the reserves after the "true-up" are equal to the present value of the COLA and retiree benefits for members currently receiving such benefits.

*Reference:* Pg. 16

- Effective with the December 31, 2007 valuation, we have calculated a separate Normal Cost rate for Safety – VOM based on the demographics of Safety employees of VOM. Any new Safety UAAL will continue to be allocated to Safety – County and Safety – VOM based on their proportions of payroll to the total Safety payroll. However, the County's

## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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additional UAAL payment (\$3,553,289.39<sup>2</sup> as of August 3, 2015) has been split between General and Safety and only used to reduce the County's UAAL.

Reference: Pg. 15

- Effective with the restatement of the December 31, 2012 contribution rates, we have calculated a separate Normal Cost rate for General Plan A – County. Note that the Normal Cost rate for all other General employers continues to be developed on a pooled basis. However, starting with this valuation, we have adjusted the Normal Cost rate for General Plan A – VOM relative to that paid by General Plan A – Court. As stated in our Actuarial Experience Study dated October 2, 2015, this adjustment is to reflect SCERA's determination that the cashout cost paid by members in General Plan A – VOM should no longer be adjusted by a factor of 91%. Previously, the cashout cost paid by members, which is used to develop the member rates for both General Plan A – VOM and General Plan A – Court, were adjusted by a factor of 91% to represent the exclusion of the cashout of sick leave. These assumptions are outlined in Section 4, Exhibit III.

Similar to Safety, any new General UAAL will continue to be allocated to General – County, General – Court and General – VOM based on the proportions of their payroll to the total General payroll. However, the County's additional UAAL payment (\$3,553,289.39<sup>2</sup> as of August 3, 2015) has been allocated between General and Safety and only used to reduce the County's UAAL.

### 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.

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<sup>2</sup> This amount when adjusted with interest at the assumed earnings rate of 7.5% is \$3,661,000 as of December 31, 2015.

## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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### Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan provisions.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by SCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by SCERA.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

## SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association

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The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If SCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of SCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to SCERA.

**SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association**

**Summary of Key Valuation Results (Dollar amounts in thousands)**

	December 31, 2015		December 31, 2014	
	Total Rate	Estimated Annual Amount <sup>(1)</sup>	Total Rate	Estimated Annual Amount <sup>(1)</sup>
<b>Employer Contribution Rates:</b>				
General Plan A – County	19.01%	\$37,450	17.81%	\$35,085
General Plan A – Court	29.96%	3,438	28.87%	3,313
General Plan A – Valley of the Moon	18.34%	42	16.58%	38
General Plan B – County	13.90%	8,365	12.86%	7,739
General Plan B – Court	23.87%	468	23.18%	455
General Plan B – Valley of the Moon	12.28%	7	10.89%	6
Safety Plan A – County	28.61%	16,569	25.06%	14,514
Safety Plan A – Valley of the Moon	35.33%	1,350	32.52%	1,243
Safety Plan B – County	21.60%	1,441	18.86%	1,259
Safety Plan B – Valley of the Moon	22.76%	46	20.49%	41
All Categories combined	20.38%	69,176	18.76%	63,693
<b>Average Member Contribution Rates<sup>(2)</sup>:</b>				
	Total Rate	Estimated Annual Amount <sup>(1)</sup>	Total Rate	Estimated Annual Amount <sup>(1)</sup>
General Plan A – County (Average Entry Age: 36)	11.93%	\$23,502	11.99%	\$23,620
General Plan A – Court (Average Entry Age: 36)	12.24%	1,405	12.30%	1,411
General Plan A – Valley of the Moon (Average Entry Age: 52)	12.13%	28	11.91%	28
General Plan B – County	10.43%	6,277	10.40%	6,259
General Plan B – Court	10.43%	205	10.40%	204
General Plan B – Valley of the Moon	7.40%	4	7.37%	4
Safety Plan A – County (Average Entry Age: 30)	12.07%	6,990	12.03%	6,967
Safety Plan A – Valley of the Moon (Average Entry Age: 34)	10.30%	394	10.14%	388
Safety Plan B – County	14.36%	958	14.98%	1,000
Safety Plan B – Valley of the Moon	10.04%	20	10.36%	21
All Categories combined	11.72%	39,783	11.75%	39,902

<sup>(1)</sup> Based on December 31, 2015 projected annual compensation.

<sup>(2)</sup> Includes an additional 3.03% and 3.00% of payroll for General (County and Court) and Safety-County members, respectively.

**SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association**

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

	December 31, 2015	December 31, 2014
<b>Funded Status:</b>		
Actuarial accrued liability (AAL)	\$2,694,979	\$2,510,253
Valuation value of assets (VVA) <sup>(3)</sup>	2,289,057	2,167,210
Market value of assets (MVA) <sup>(3)</sup>	2,282,127	2,293,475
Funded percentage on a VVA basis	84.9%	86.3%
Funded percentage on a MVA basis	84.7%	91.4%
Unfunded Actuarial Accrued Liability on a VVA basis	405,922	343,043
Unfunded Actuarial Accrued Liability on a MVA basis	412,852	216,778
<b>Key Assumptions:</b>		
Interest rate	7.25%	7.50%
Inflation rate	3.00%	3.25%
Across the board salary increase	0.50%	0.75%

<sup>(3)</sup> Excludes non-valuation reserves.

**SECTION 1: Valuation Summary for the Sonoma County Employees' Retirement Association**

**Summary of Key Valuation Demographic and Financial Data**

	December 31, 2015	December 31, 2014	Percentage Change
<b>Active Members:</b>			
Number of members	4,071	3,922	3.8%
Average age	45.7	46.0	N/A
Average service	9.6	9.8	N/A
Projected total compensation	\$339,516,784	\$324,418,882	4.7%
Average projected compensation	\$83,399	\$82,718	0.8%
<b>Retired Member and Beneficiaries:</b>			
Number of members:			
Service retired	3,513	3,409	3.1%
Disability retired	610	606	0.7%
Beneficiaries	530	491	7.9%
Total	4,653	4,506	3.3%
Average age	68.0	67.8	N/A
Average monthly benefit	\$2,691	\$2,645	1.7%
<b>Vested Terminated Members:</b>			
Number of terminated vested members <sup>(1)</sup>	1,047	975	7.4%
Average age	46.1	46.4	N/A
<b>Summary of Financial Data (dollar amounts in thousands):</b>			
Market value of assets	\$2,282,127	\$2,293,475	-0.5%
Return on market value of assets	1.37%	5.18%	N/A
Actuarial value of assets	\$2,289,057	\$2,167,210	5.6%
Return on actuarial value of assets	7.65%	9.71%	N/A
Valuation value of assets	\$2,289,057	\$2,167,210	5.6%
Return on valuation value of assets	7.65%	9.71%	N/A

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

### 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: 2006 – 2015**

Year Ended December 31	Active Members	Vested Terminated Members <sup>(1)</sup>	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2006	4,212	729	3,095	0.91
2007	4,246	763	3,282	0.95
2008	4,193	853	3,399	1.01
2009	3,984	881	3,570	1.12
2010	3,780	904	3,780	1.24
2011	3,587	919	4,021	1.38
2012	3,620	876	4,258	1.42
2013	3,833	918	4,394	1.39
2014	3,922	975	4,506	1.40
2015	4,071	1,047	4,653	1.40

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**Active Members**

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 4,071 active members with an average age of 45.7, average years of service of 9.6 years and average projected compensation of \$83,399. The 3,922 active members in the prior valuation had an average age of 46.0, average service of 9.8 years and average projected compensation of \$82,718.

Among the active members, there were none with unknown age.

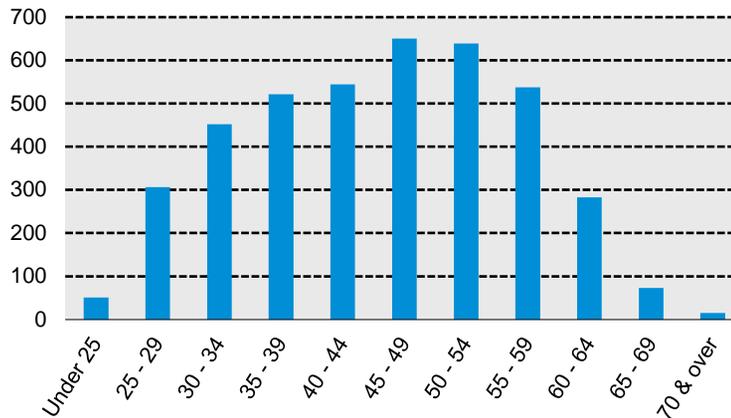
**Inactive Members**

In this year's valuation, there were 1,047 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 975 in the prior valuation.

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

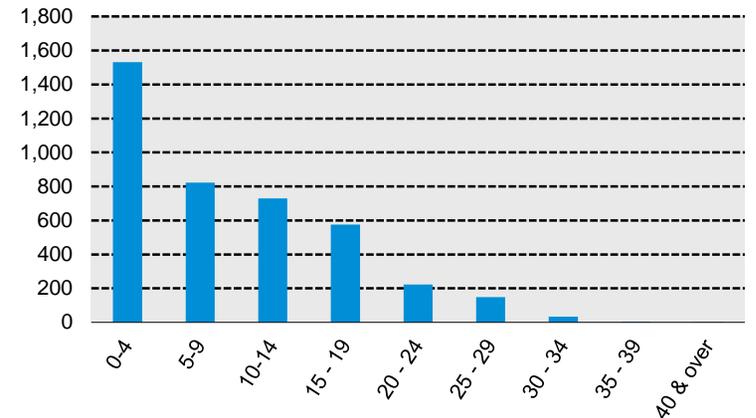
**CHART 2**

**Distribution of Active Members by Age as of December 31, 2015**



**CHART 3**

**Distribution of Active Members by Years of Service as of December 31, 2015**



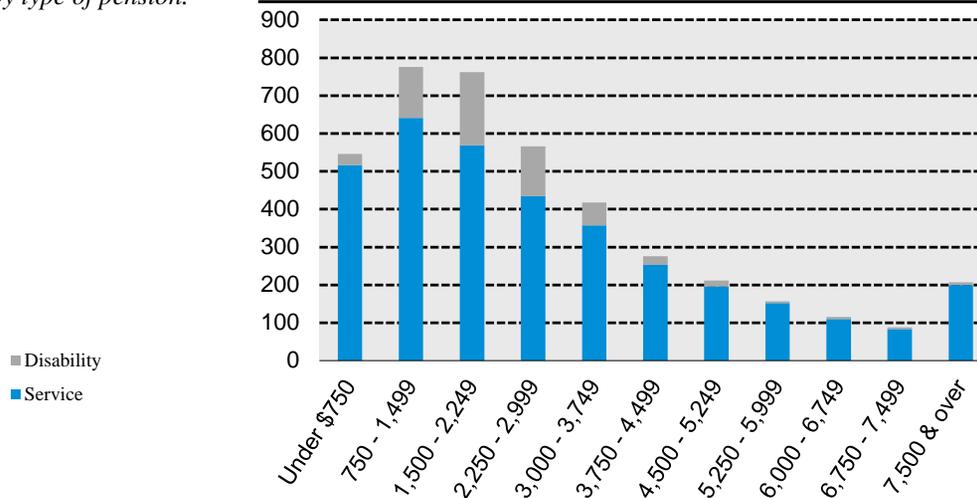
**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**Retired Members and Beneficiaries**

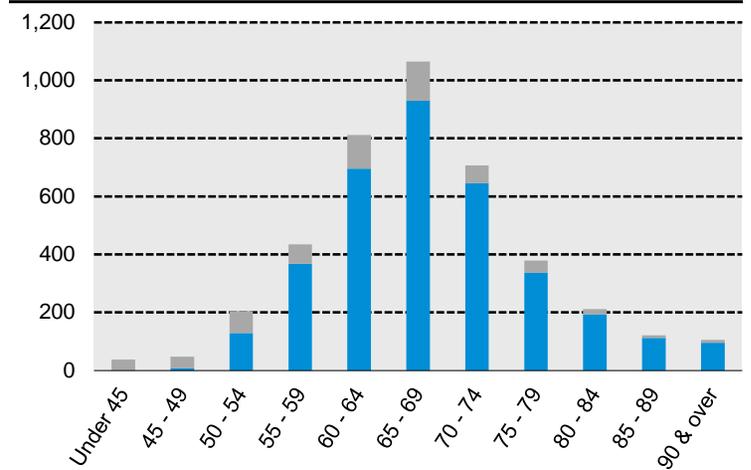
As of December 31, 2015, 4,123 retired members and 530 beneficiaries were receiving total monthly benefits of \$12,519,042. For comparison, in the previous valuation, there were 4,015 retired members and 491 beneficiaries receiving monthly benefits of \$11,917,933.

*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 by Type and by Monthly Amount as of December 31, 2015**



**CHART 5**  
**Distribution of Retired Members by Type and by Age as of December 31, 2015**



**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

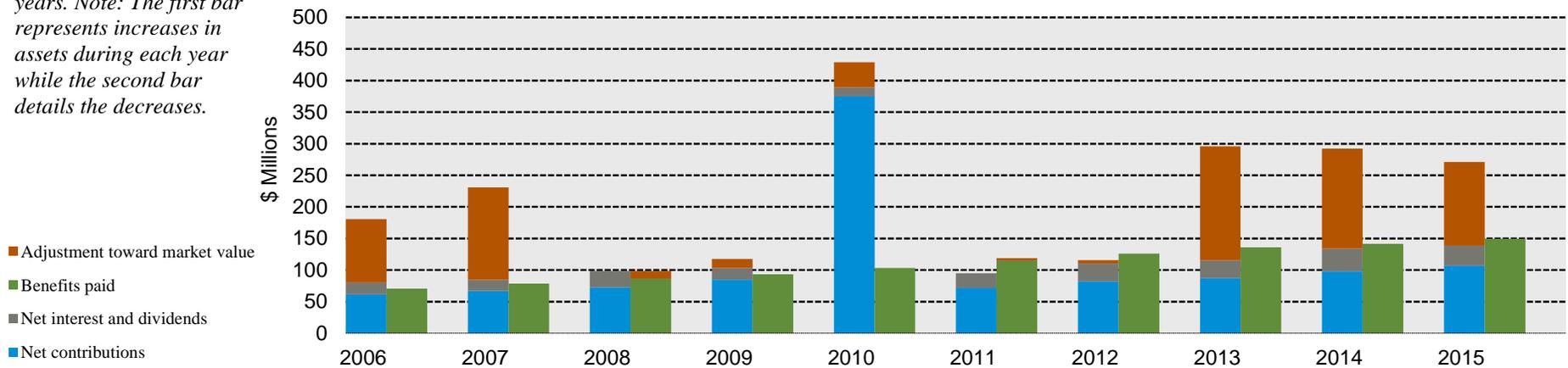
**B. FINANCIAL INFORMATION**

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, E and F.

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

**CHART 6**  
**Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2006 - 2015**



## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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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 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 has no immediate effect on the actuarial value.

The determination of the actuarial and valuation value of assets is provided on the following page.

The following are points of note in the asset smoothing method used by the actuary in developing the actuarial value and valuation value of assets: (1) the non-investment cash flow included contributions received, benefit payments and administrative expenses made during the last calendar year and (2) the amount subject to smoothing is the actual market return earned during the last calendar year that was in excess/below the expected return on the valuation value of assets

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

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

**CHART 7**

**Determination of Actuarial and Valuation Value of Assets for Year Ended December 31, 2015**

Plan Year Ending December 31	Actual Return On Market Value	Expected Return On Valuation Value	Investment Gain/(Loss)	Deferred Factor	Deferred Return
2011	\$4,854,307	\$144,723,796	\$(139,869,489)	0.0	\$0
2012	242,604,327	142,862,439	99,741,888	0.2	19,948,378
2013	370,312,599	137,296,052	233,016,547	0.4	93,206,619
2014	117,662,316	149,497,548	(31,835,232)	0.6	(19,101,139)
2015	34,589,119	160,818,143	(126,229,024)	0.8	(100,983,219)
1. Total Deferred Return					\$(6,929,361)
2. Net Market Value of Assets					2,282,127,429
3. Actuarial Value of Assets (Item 2 – Item 1)					\$2,289,056,790
4. Ratio of Actuarial Value to Market Value					100.3%
5. Non-Valuation Reserves and Other Adjustments					
a. Interest Fluctuation Reserve					\$0
b. Undistributed Reserve					0
c. Negative Contingency Reserve (Before Any Transfer)					(490,104,376)
d. Transfer to True-Up Reserves					(1,256,614)
e. Negative Contingency Reserve (After Transfers) (Item 5c + Item 5d)					(491,360,990)
f. Total (Item 5a + Item 5b + Max (Item 5e,0))					\$0
6. Valuation Value of Assets (Item 3 – Item 5f)					\$2,289,056,790

The amounts of deferred return as of December 31, 2015 to be recognized in each subsequent valuation are as follows:

December 31, 2016	\$34,938,837
December 31, 2017	14,990,458
December 31, 2018	(31,612,851)
December 31, 2019	(25,245,805)
Total	\$(6,929,361)

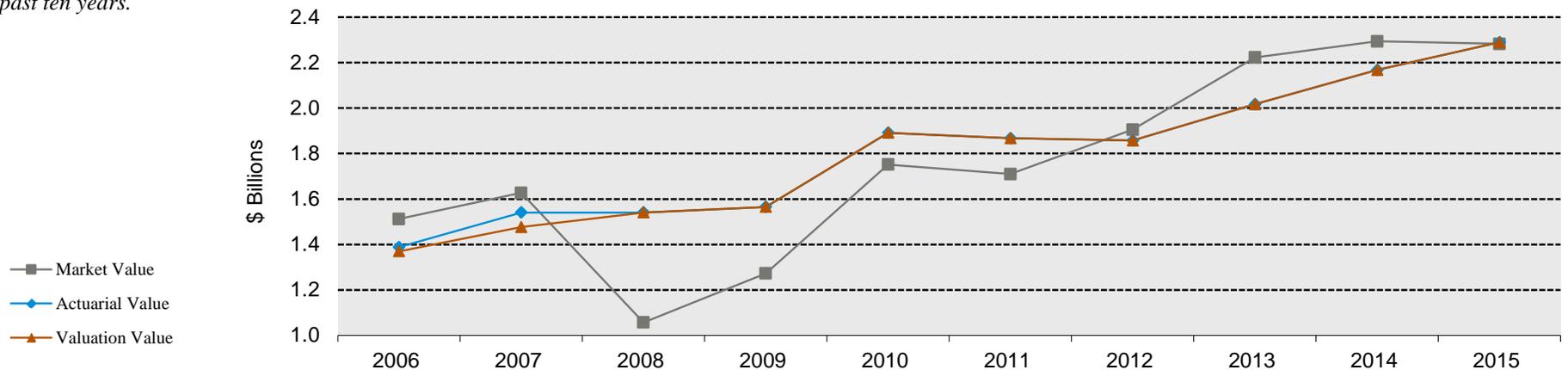
## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

The market value, actuarial value, and valuation value of assets are representations of the SCERA's 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 asset value is significant because SCERA's 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 past ten years.*

**CHART 8**

**Market Value, Actuarial Value and Valuation Value of Assets as of December 31, 2006 – 2015**



## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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### 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 gain was \$22.2 million, a gain of \$3.3 million from investments (after smoothing and relative to a return of 7.50% assumed in the December 31, 2014 valuation), a gain of \$3.5 million from contribution experience and a gain of \$15.4 million from all other sources. The gain from all other sources was 0.6% of the actuarial accrued liability. 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.*

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### CHART 9 Actuarial Experience for Year Ended December 31, 2015

1. Net gain from investments on valuation value of assets <sup>(1)</sup>	\$3,307,000
2. Net gain from contribution experience	3,519,000
3. Net gain from other experience <sup>(2)</sup>	<u>15,375,000</u>
4. Net experience gain: (1) + (2) + (3)	<u>\$22,201,000</u>

<sup>(1)</sup> Details in Chart 10.

<sup>(2)</sup> See Section 3, Exhibit H.

**SECTION 2: Valuation Results for the Sonoma County Employees’ Retirement Association**

**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 SCERA’s investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.50% based on the December 31, 2014 valuation. The actual rate of return on a (“smoothed”) valuation basis for the 2015 plan year was 7.65%.

Since the actual return for the year on the valuation value of assets was more than the assumed return, SCERA experienced an actuarial gain during the year ended December 31, 2015 with regard to its investments.

For this valuation, there is no difference between the return on the valuation value of assets and the return on the actuarial value of assets.

**CHART 10**

**Investment Experience for Year Ended December 31, 2015 – Valuation Value, Actuarial Value and Market Value of Assets**

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

	<b>Valuation Value</b>	<b>Actuarial Value</b>	<b>Market Value</b>
1. Actual return	\$164,257,165	\$164,257,165	\$31,063,205
2. Average value of assets	\$2,146,004,861	\$2,146,004,861	\$2,272,269,460
3. Actual rate of return: (1) ÷ (2)	7.65%	7.65%	1.37%
4. Assumed rate of return	7.50%	7.50%	7.50%
5. Expected return: (2) x (4)	160,950,364	160,950,364	170,420,209
6. Actuarial gain/(loss): (1) – (5)	<u>\$3,306,801</u>	<u>\$3,306,801</u>	<u>\$(139,357,004)</u>

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

One measure of actuarial experience is to see how the assumed investment rate of return has compared to actual experience over time. The chart below shows the rate of return on an actuarial, valuation and market basis for the last ten years.

Based on future expectations, we have lowered the assumed rate of return of 7.50% to 7.25% for this valuation.

**CHART 11**

**Investment Return – Actuarial Value, Valuation Value and Market Value: 2006 – 2015 (Dollar amount in thousands)**

Year Ended December 31	Valuation Value Investment Return <sup>(1)</sup>		Actuarial Value Investment Return <sup>(1)</sup>		Market Value Investment Return <sup>(1)</sup>	
	Amount	Percent	Amount	Percent	Amount	Percent
2006	\$102,056	8.02%	\$118,855	9.33%	\$193,809	14.64%
2007	111,564	8.15%	163,919	11.86%	126,599	8.40%
2008	70,012	4.75%	13,753	0.90%	-556,235	-34.33%
2009	32,771	2.13%	32,771	2.13%	224,056	21.28%
2010	54,093	3.27%	54,093	3.27%	207,173	15.23%
2011	19,508	1.04%	19,508	1.04%	1,179	0.07%
2012	33,652	1.82%	33,652	1.82%	239,065	14.16%
2013	208,550	11.38%	208,550	11.38%	366,462	19.49%
2014	193,799	9.71%	193,799	9.71%	114,072	5.18%
2015	164,257	7.65%	164,257	7.65%	31,063	1.37%
Five-Year Average Return		6.24%		6.24%		7.79%
Ten-Year Average Return		5.74%		5.82%		5.20%

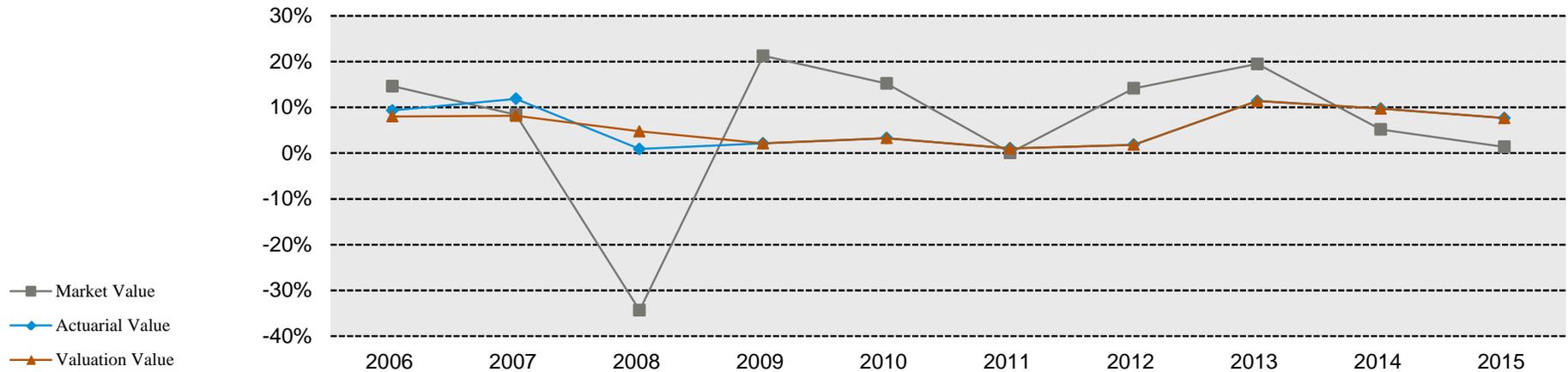
<sup>(1)</sup> Net of administrative and investment expenses.

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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 last ten years.*

**CHART 12**  
**Market, Actuarial and Valuation Rates of Return for Years Ended December 31, 2006 - 2015**



## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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### 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 may include:

- the extent of 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, 2015 amounted to \$15.4 million, which was 0.6% of the actuarial accrued liability. See Exhibit H for a detailed development of the changes in the Unfunded Actuarial Accrued Liability.

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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### 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 determined as a level percentage of the member's career compensation.

*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 Association) 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 3.50% (i.e., 3.00% inflation plus 0.50% across-the-board salary increase). The outstanding balance of the December 31, 2007 UAAL as well as any new UAAL established on each subsequent valuation after December 31, 2007 is amortized over separate 20-year declining periods. The UAAL established as a result of including as pensionable salary a cash allowance of \$3.45 per hour for General-County and Safety-County members only is amortized over a 20-year declining period with 12 years remaining as of December 31, 2015.

The recommended employer contributions are provided on Charts 13a and 13b.

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

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### Member Contributions:

#### *Normal Cost*

##### *Plan A 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 Plan A members and Safety Plan A 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 1/100 of Final Average Compensation for General and Safety members. That age is 55 for General members and 50 for Safety members. It is assumed that contributions are made annually at the same rate, starting at entry age. Accumulation includes semi-annual crediting of interest at one-half of the assumed investment earning rate. The member contribution rates are provided in Appendix A.

##### *Plan B Members*

Pursuant to Section 7522.30(a) of the Government Code, CalPEPRA members are required to contribute at least 50% of the Normal Cost rate. We have assumed that exactly 50% of the Normal Cost would be paid by the new members. Also of note is that based on our recommendation, SCERA has decided to use the discretion made available by AB1380 to no longer round the member's contribution rate to the nearest 1/4% as previously required by the California Public Employees' Pension Reform Act of 2013 (CalPEPRA).

#### *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)*

General County and Court members pay an additional contribution amount equal to 3.03% of payroll for a 20-year period from July 1, 2004 to June 30, 2024 while Safety-County members (excluding Valley of the Moon) pay an additional contribution amount equal to 3.00% of payroll effective February 1, 2005. These rates are subtracted from the employer's UAAL rates, after adjustment for refundability.

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**CHART 13a**

**Recommended Employer Contribution Rates (Dollar Amounts in Thousands)**

	<b>December 31, 2015 Actuarial Valuation</b>		<b>December 31, 2014 Actuarial Valuation</b>	
	Rate	Estimated Annual Amount <sup>(1)</sup>	Rate	Estimated Annual Amount <sup>(1)</sup>
<b>General Plan A-County Members</b>				
Normal Cost	12.51%	\$24,645	12.32%	\$24,270
UAAL	<u>6.50%</u>	<u>12,805</u>	<u>5.49%</u>	<u>10,815</u>
Total Contribution	19.01%	\$37,450	17.81%	\$35,085
<b>General Plan A-Court Members</b>				
Normal Cost	13.49%	\$1,548	13.06%	\$1,499
UAAL	<u>16.47%</u>	<u>1,890</u>	<u>15.81%</u>	<u>1,814</u>
Total Contribution	29.96%	\$3,438	28.87%	\$3,313
<b>General Plan A-Valley of the Moon Members</b>				
Normal Cost	13.46%	\$31	13.06%	\$30
UAAL	<u>4.88%</u>	<u>11</u>	<u>3.52%</u>	<u>8</u>
Total Contribution	18.34%	\$42	16.58%	\$38
<b>General Plan B-County Members</b>				
Normal Cost	7.40%	\$4,453	7.37%	\$4,435
UAAL	<u>6.50%</u>	<u>3,912</u>	<u>5.49%</u>	<u>3,304</u>
Total Contribution	13.90%	\$8,365	12.86%	\$7,739
<b>General Plan B-Court Members</b>				
Normal Cost	7.40%	\$145	7.37%	\$145
UAAL	<u>16.47%</u>	<u>323</u>	<u>15.81%</u>	<u>310</u>
Total Contribution	23.87%	\$468	23.18%	\$455
<b>General Plan B-Valley of the Moon Members</b>				
Normal Cost	7.40%	\$4	7.37%	\$4
UAAL	<u>4.88%</u>	<u>3</u>	<u>3.52%</u>	<u>2</u>
Total Contribution	12.28%	\$7	10.89%	\$6

<sup>(1)</sup> Amounts are in thousands and are based on December 31, 2015 projected annual payroll (also in thousands) as shown on page 16.

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**CHART 13a (continued)**

**Recommended Employer Contribution Rates (Dollar Amounts in Thousands)**

	December 31, 2015 Actuarial Valuation		December 31, 2014 Actuarial Valuation	
	Rate	Estimated Annual Amount <sup>(1)</sup>	Rate	Estimated Annual Amount <sup>(1)</sup>
<b>Safety Plan A-County Members</b>				
Normal Cost	18.37%	\$10,639	18.18%	\$10,529
UAAL	<u>10.24%</u>	<u>5,930</u>	<u>6.88%</u>	<u>3,985</u>
Total Contribution	28.61%	\$16,569	25.06%	\$14,514
<b>Safety Plan A-Valley of the Moon Members</b>				
Normal Cost	22.61%	\$864	22.39%	\$856
UAAL	<u>12.72%</u>	<u>486</u>	<u>10.13%</u>	<u>387</u>
Total Contribution	35.33%	\$1,350	32.52%	\$1,243
<b>Safety Plan B-County Members</b>				
Normal Cost	11.36%	\$758	11.98%	\$800
UAAL	<u>10.24%</u>	<u>683</u>	<u>6.88%</u>	<u>459</u>
Total Contribution	21.60%	\$1,441	18.86%	\$1,259
<b>Safety Plan B-Valley of the Moon Members</b>				
Normal Cost	10.04%	\$20	10.36%	\$21
UAAL	<u>12.72%</u>	<u>26</u>	<u>10.13%</u>	<u>20</u>
Total Contribution	22.76%	\$46	20.49%	\$41
<b>All Categories Combined</b>				
Normal Cost	12.70%	\$43,107	12.54%	\$42,589
UAAL	<u>7.68%</u>	<u>26,069</u>	<u>6.22%</u>	<u>21,104</u>
Total Contribution	20.38%	\$69,176	18.76%	\$63,693

<sup>(1)</sup> Amounts are in thousands and are based on December 31, 2015 projected annual payroll (also in thousands):

General Plan A-County	\$196,999
General Plan A-Court	11,475
General Plan A-Valley of the Moon	231
General Plan B-County	60,181
General Plan B-Court	1,963
General Plan B-Valley of the Moon	56
Safety Plan A-County	57,915
Safety Plan A-Valley of the Moon	3,823
Safety Plan B-County	6,674
Safety Plan B-Valley of the Moon	<u>201</u>
Total	\$339,518

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**CHART 13b**

**Breakdown of the Employers' Plus Employees' Normal Cost Contributions to Fund for Each Type of Benefit**

Normal Cost	Elements of Normal Cost for Plan A Members			
	All	Safety-Valley		Overall
	General	Safety-County	of the Moon	
Service Retirement	82%	63%	65%	77%
Vested Termination and Ordinary Withdrawal	10%	8%	6%	10%
Non Service and Service Connected Disability	7%	29%	29%	13%
Non Service and Service Connected Death	1%	0%	0%	0%
Total Employer Plus Employee Normal Cost	100%	100%	100%	100%

Normal Cost	Elements of Normal Cost for Plan B Members			
	All	Safety-Valley		Overall
	General	Safety-County	of the Moon	
Service Retirement	79%	55%	57%	75%
Vested Termination and Ordinary Withdrawal	10%	10%	10%	10%
Non Service and Service Connected Disability	10%	35%	33%	14%
Non Service and Service Connected Death	1%	0%	0%	1%
Total Employer Plus Employee Normal Cost	100%	100%	100%	100%

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

The contribution rates as of December 31, 2015 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.

### Reconciliation of Recommended Contribution

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation

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

#### CHART 14

#### Reconciliation of Recommended Contribution from December 31, 2014 to December 31, 2015 (Dollar Amounts in Thousands)

	<u>Contribution Rate</u>	<u>Estimated Annual Dollar Cost<sup>(1)</sup></u>
<b>Recommended Average Employer Contribution Rate as of December 31, 2014</b>	18.76%	\$63,693
Effect of investment gain <sup>(2)</sup>	-0.07%	\$(238)
Effect of difference in actual versus expected individual salary increases	-0.26%	(883)
Effect of decrease in UAAL rate from higher than expected increases in total payroll	-0.10%	(340)
Effect of difference between actual and expected contributions <sup>(3)</sup>	-0.07%	(238)
Effect of demographic changes	-0.01%	(34)
Effect of changes in actuarial assumptions	2.29%	7,775
Effect of County's additional UAAL payment	-0.10%	(340)
Effect of other experience gains	-0.06%	(219)
Subtotal	1.62%	\$5,483
<b>Recommended Average Employer Contribution Rate as of December 31, 2015</b>	20.38%	\$69,176

<sup>(1)</sup> Based on December 31, 2015 projected annual payroll of \$339,518.

<sup>(2)</sup> Return on valuation assets was 7.65% and therefore was more than the 7.50% assumed in the December 31, 2014 valuation.

<sup>(3)</sup> Includes impact of 18-month delay in rate implementation, phase-in of the impact of the changes in actuarial assumptions on the employer contribution rate (if any) and difference between normal cost and UAAL contributions due to actual payroll more than expected during 2015.

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**Reconciliation of Recommended Contribution Rate**

The chart below details the changes in the aggregate member contribution rate from the prior valuation to the current year's valuation.

**CHART 15**

**Reconciliation of Recommended Member Contribution from December 31, 2014 to December 31, 2015**

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

	General Plan A-County Contribution Rate <sup>(1)</sup>	General Plan A-Court Contribution Rate <sup>(1)</sup>	General Plan A-Valley of the Moon Contribution Rate	Safety Plan A- County Contribution Rate <sup>(2)</sup>	Safety Plan A-Valley of the Moon Contribution Rate	
<b>Recommended Average Member Contribution Rate as of December 31, 2014<sup>(3)</sup></b>	11.99%	12.30%	11.91%	12.03%	10.14%	
Effect of demographic changes	0.00%	0.00%	0.00%	0.00%	0.00%	
Effect of actuarial assumptions	-0.06%	-0.06%	0.22%	0.04%	0.16%	
<b>Recommended Average Member Contribution Rate as of December 31, 2015<sup>(4)</sup></b>	11.93%	12.24%	12.13%	12.07%	10.30%	

	General Plan B-County Contribution Rate <sup>(1)</sup>	General Plan B-Court Contribution Rate <sup>(1)</sup>	General Plan B-Valley of the Moon Contribution Rate	Safety Plan B- County Contribution Rate <sup>(2)</sup>	Safety Plan B-Valley of the Moon Contribution Rate	Total Contribution Rate
<b>Recommended Average Member Contribution Rate as of December 31, 2014</b>	10.40%	10.40%	7.37%	14.98%	10.36%	11.75%
Effect of demographic changes	-0.11%	-0.11%	-0.11%	-0.81%	-0.35%	-0.03%
Effect of actuarial assumptions	0.14%	0.14%	0.14%	0.19%	0.03%	0.00%
<b>Recommended Average Member Contribution Rate as of December 31, 2015</b>	10.43%	10.43%	7.40%	14.36%	10.04%	11.72%

<sup>(1)</sup> Rates include an additional 3.03% of payroll.

<sup>(2)</sup> Rates include an additional 3.00% of payroll.

<sup>(3)</sup> The above rates are based on average entry age. The weighted average member contribution rates as of December 31, 2014 are 11.94%, 12.25%, 11.60% and 9.13% for General-County, other General (i.e., Court and Valley of the Moon), Safety-County and Safety-Valley of the Moon, respectively.

<sup>(4)</sup> The above rates are based on average entry age. The weighted average member contribution rates as of December 31, 2015 are 11.86%, 12.12%, 11.59% and 9.00% for General-County, other General (i.e., Court and Valley of the Moon), Safety-County and Safety-Valley of the Moon, respectively.

## SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association

### E. FUNDED RATIO

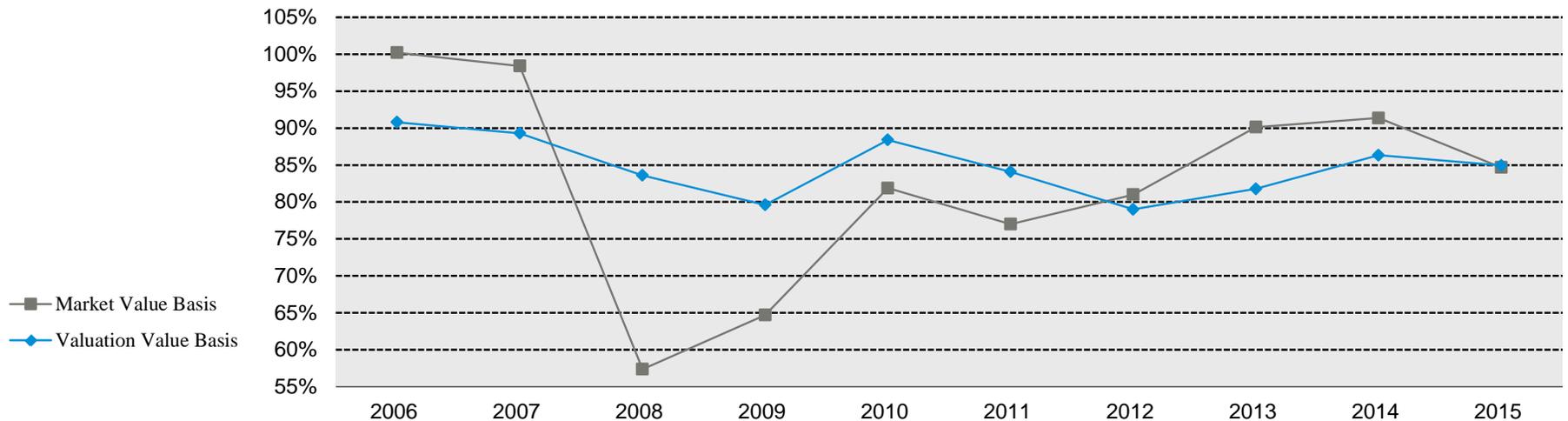
A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the valuation value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

The chart below depicts a history of the funded ratios for this plan.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the valuation or market value of assets is used.

**CHART 16**

**Funded Ratio for Plan Years Ending December 31, 2006 - 2015**



**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**CHART 17**

**Schedule of Funding Progress**

**(Dollar Amounts in Thousands)**

<b>Actuarial Valuation Date</b>	<b>Valuation Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)</b>
12/31/2006 <sup>(1)</sup>	\$1,369,669	\$1,509,083	\$139,414	90.8%	\$273,548	51.0%
12/31/2007	1,476,496	1,653,847	177,351	89.3%	292,772	60.6%
12/31/2008	1,540,461	1,842,404	301,943	83.6%	334,391	90.3%
12/31/2009	1,564,970	1,967,058	402,088	79.6%	322,484	124.7%
12/31/2010	1,890,874	2,139,460	248,586	88.4%	323,601	76.8%
12/31/2011	1,867,117	2,220,520	353,403	84.1%	308,644	114.5%
12/31/2012	1,856,847	2,351,087	494,240	79.0%	302,764	163.2%
12/31/2013	2,016,781	2,466,224	449,443	81.8%	329,896	136.2%
12/31/2014	2,167,210	2,510,253	343,043	86.3%	324,418	105.7%
12/31/2015	2,289,057	2,694,979	405,922	84.9%	339,518	119.6%

<sup>(1)</sup> Source: December 31, 2006 Comprehensive Annual Financial Report

**SECTION 2: Valuation Results for the Sonoma County Employees' Retirement Association**

**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 SCERA, the current AVR is about 6.7. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 6.7% of one-year's payroll. Since SCERA amortizes actuarial gains and losses over a 20-year period, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss). As the plan approaches full funding, we expect the AVR to increase.

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 SCERA, the current LVR is about 7.9. This is about 18% 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 18**  
**Volatility Ratios for Years Ended December 31, 2009 – 2015**

Year Ended December 31	Asset Volatility Ratio			Liability Volatility Ratio		
	General	Safety	Total	General	Safety	Total
2009	3.8	4.4	3.9	5.9	6.8	6.1
2010	5.2	6.1	5.4	6.4	7.5	6.6
2011	5.3	6.3	5.5	6.9	8.2	7.2
2012	6.0	7.2	6.3	7.6	8.8	7.9
2013	6.4	7.8	6.7	7.2	8.6	7.5
2014	6.7	8.5	7.1	7.4	9.2	7.7
2015	6.3	8.5	6.7	7.4	10.1	7.9

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**i. General Plan A**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2015</b>	<b>2014</b>	
<b>Active members in valuation</b>			
Number	2,455	2,626	-6.5%
Average age	48.8	48.2	N/A
Average service	12.0	11.3	N/A
Projected total compensation	\$208,704,198	\$216,555,408	-3.6%
Projected average compensation	\$85,012	\$82,466	3.1%
Account balances	\$334,329,250	\$318,940,926	4.8%
Total active vested members	2,017	2,084	-3.2%
<b>Vested terminated members<sup>(1)</sup></b>	735	735	0.0%
<b>Retired members</b>			
Number in pay status	3,085	3,001	2.8%
Average age	69.1	68.8	N/A
Average monthly benefit	\$2,753	\$2,708	1.7%
<b>Disabled members</b>			
Number in pay status	341	350	-2.6%
Average age	65.7	65.0	N/A
Average monthly benefit	\$1,745	\$1,741	0.2%
<b>Beneficiaries</b>			
Number in pay status	440	409	7.6%
Average age	72.8	72.9	N/A
Average monthly benefit	\$1,184	\$1,121	5.6%

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**ii. General Plan B**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2015</b>	<b>2014</b>	
<b>Active members in valuation</b>			
Number	911	585	55.7%
Average age	40.0	40.5	N/A
Average service	1.4	1.1	N/A
Projected total compensation	\$62,199,997	\$39,021,956	59.4%
Projected average compensation	\$68,277	\$66,704	2.4%
Account balances	\$8,764,574	\$4,001,051	119.1%
Total active vested members	10	4	150.0%
<b>Vested terminated members<sup>(1)</sup></b>	129	60	115.0%
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**iii. Safety Plan A**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2015</b>	<b>2014</b>	
<b>Active members in valuation</b>			
Number	615	653	-5.8%
Average age	43.7	43.0	N/A
Average service	13.1	12.5	N/A
Projected total compensation	\$61,738,252	\$64,473,981	-4.2%
Projected average compensation	\$100,387	\$98,735	1.7%
Account balances	\$114,902,073	\$110,449,194	4.0%
Total active vested members	537	563	-4.6%
<b>Vested terminated members<sup>(1)</sup></b>	177	174	1.7%
<b>Retired members</b>			
Number in pay status	428	408	4.9%
Average age	64.1	63.6	N/A
Average monthly benefit	\$4,505	\$4,446	1.3%
<b>Disabled members</b>			
Number in pay status	269	256	5.1%
Average age	58.4	58.7	N/A
Average monthly benefit	\$3,015	\$2,954	2.1%
<b>Beneficiaries</b>			
Number in pay status	90	82	9.8%
Average age	64.3	63.6	N/A
Average monthly benefit	\$1,896	\$1,864	1.7%

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**iv. Safety Plan B**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2015</b>	<b>2014</b>	
<b>Active members in valuation</b>			
Number	90	58	55.2%
Average age	31.8	33.1	N/A
Average service	1.4	0.9	N/A
Projected total compensation	\$6,874,338	\$4,367,538	57.4%
Projected average compensation	\$76,382	\$75,302	1.4%
Account balances	\$1,298,574	\$552,365	135.1%
Total active vested members	0	0	0.0%
<b>Vested terminated members<sup>(1)</sup></b>	6	6	0.0%
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation as of December 31, 2015  
By Age and Years of Service**

**i. General Plan A**

Age	Total	Years of Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	1	1	--	--	--	--	--	--	--	--	--
	\$64,638	\$64,638	--	--	--	--	--	--	--	--	--
25 - 29	65	54	11	--	--	--	--	--	--	--	--
	70,938	71,937	\$66,033	--	--	--	--	--	--	--	--
30 - 34	187	81	88	17	1	--	--	--	--	--	--
	75,969	78,069	75,798	\$68,355	\$50,429	--	--	--	--	--	--
35 - 39	272	72	115	76	9	--	--	--	--	--	--
	81,382	84,124	80,715	79,842	80,979	--	--	--	--	--	--
40 - 44	319	55	94	107	57	6	--	--	--	--	--
	85,596	85,211	87,084	85,649	83,404	\$85,704	--	--	--	--	--
45 - 49	421	67	100	94	105	35	19	1	--	--	--
	84,442	88,963	81,791	82,167	83,490	91,171	\$86,458	\$86,598	--	--	--
50 - 54	468	54	99	119	93	58	40	5	--	--	--
	87,786	92,129	84,146	83,758	85,188	99,557	92,136	85,788	--	--	--
55 - 59	417	48	74	91	97	43	42	19	3	--	--
	90,467	96,253	90,137	83,781	89,218	94,562	88,113	108,778	\$107,561	--	--
60 - 64	228	17	60	59	57	19	13	3	--	--	--
	85,813	91,239	86,573	83,550	84,180	88,136	93,494	67,423	--	--	--
65 - 69	65	7	13	21	19	2	2	--	--	--	1
	85,135	115,084	69,402	80,784	93,715	64,566	75,670	--	--	--	\$68,436
70 & over	12	1	2	4	3	--	2	--	--	--	--
	76,932	97,358	82,832	72,179	68,851	--	82,447	--	--	--	--
Total	2,455	457	656	588	441	163	118	28	3	1	
	\$85,012	\$85,396	\$82,785	\$82,694	\$85,401	\$94,168	\$89,496	\$99,450	\$107,561	\$68,436	

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation as of December 31, 2015  
By Age and Years of Service**

**ii. General Plan B**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	36	36	--	--	--	--	--	--	--	--
	\$54,080	\$54,080	--	--	--	--	--	--	--	--
25 - 29	185	184	1	--	--	--	--	--	--	--
	61,142	61,123	\$64,538	--	--	--	--	--	--	--
30 - 34	154	153	1	--	--	--	--	--	--	--
	65,649	65,873	31,283	--	--	--	--	--	--	--
35 - 39	147	147	--	--	--	--	--	--	--	--
	71,195	71,195	--	--	--	--	--	--	--	--
40 - 44	88	87	1	--	--	--	--	--	--	--
	69,949	69,798	83,070	--	--	--	--	--	--	--
45 - 49	91	91	--	--	--	--	--	--	--	--
	70,843	70,843	--	--	--	--	--	--	--	--
50 - 54	88	86	2	--	--	--	--	--	--	--
	70,985	71,646	42,581	--	--	--	--	--	--	--
55 - 59	73	71	2	--	--	--	--	--	--	--
	75,530	76,177	52,565	--	--	--	--	--	--	--
60 - 64	40	38	1	1	--	--	--	--	--	--
	81,608	82,870	57,395	\$57,863	--	--	--	--	--	--
65 - 69	7	6	1	--	--	--	--	--	--	--
	85,170	90,843	51,137	--	--	--	--	--	--	--
70 & over	2	2	--	--	--	--	--	--	--	--
	71,574	71,574	--	--	--	--	--	--	--	--
Total	911	901	9	1	--	--	--	--	--	--
	\$68,277	\$68,440	\$53,079	\$57,863	--	--	--	--	--	--

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation as of December 31, 2015  
By Age and Years of Service**

**iii. Safety Plan A**

Age	Years of Service								
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	--	--	--	--	--	--	--	--	--
25 - 29	17	15	2	--	--	--	--	--	--
30 - 34	89	30	47	11	1	--	--	--	--
35 - 39	100	10	43	36	11	--	--	--	--
40 - 44	136	11	25	49	41	10	--	--	--
45 - 49	101,985	112,175	94,593	105,559	100,305	\$98,639	--	--	--
50 - 54	105,245	100,885	90,294	100,451	104,398	108,170	\$133,410	--	--
55 - 59	108,394	92,067	90,036	104,005	102,768	135,010	119,338	\$117,168	--
60 - 64	103,926	123,855	108,937	83,324	105,275	100,613	89,247	124,400	\$119,255
65 - 69	110,093	126,848	116,650	136,947	78,777	89,660	83,394	--	--
70 & over	1	--	1	--	--	--	--	--	--
	86,689	--	86,689	--	--	--	--	--	--
<b>Total</b>	<b>615</b>	<b>84</b>	<b>158</b>	<b>141</b>	<b>134</b>	<b>60</b>	<b>31</b>	<b>6</b>	<b>1</b>
	\$100,387	\$97,341	\$93,104	\$100,023	\$102,130	\$108,913	\$118,835	\$120,784	\$119,255

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation as of December 31, 2015  
By Age and Years of Service**

**iv. Safety Plan B**

Age	Total	Years of Service							
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	14	14	--	--	--	--	--	--	--
	\$70,187	\$70,187	--	--	--	--	--	--	--
25 - 29	39	39	--	--	--	--	--	--	--
	74,227	74,227	--	--	--	--	--	--	--
30 - 34	22	22	--	--	--	--	--	--	--
	72,496	72,496	--	--	--	--	--	--	--
35 - 39	2	2	--	--	--	--	--	--	--
	75,193	75,193	--	--	--	--	--	--	--
40 - 44	1	1	--	--	--	--	--	--	--
	93,195	93,195	--	--	--	--	--	--	--
45 - 49	2	2	--	--	--	--	--	--	--
	75,437	75,437	--	--	--	--	--	--	--
50 - 54	6	6	--	--	--	--	--	--	--
	111,995	111,995	--	--	--	--	--	--	--
55 - 59	3	3	--	--	--	--	--	--	--
	85,096	85,096	--	--	--	--	--	--	--
60 - 64	1	1	--	--	--	--	--	--	--
	80,221	80,221	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
Total	90	90	--	--	--	--	--	--	--
	\$76,382	\$76,382	--	--	--	--	--	--	--

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT C**

**Reconciliation of Member Data – December 31, 2014 to December 31, 2015**

	<b>Active Members</b>	<b>Vested Terminated Members<sup>(1)</sup></b>	<b>Disabled Pensioners</b>	<b>Retired Members</b>	<b>Beneficiaries</b>	<b>Total</b>
Number as of December 31, 2014	3,922	975	606	3,409	491	9,403
New members	467	40 <sup>(2)</sup>	N/A	N/A	N/A	507
Terminations – with vested rights	-126	126	N/A	N/A	N/A	0
Contribution refunds	-43	-40	N/A	N/A	N/A	-83
Retirements	-142	-38	N/A	180	N/A	0
New disabilities	-15	-2	18	-1	N/A	0
Return to work	11	-11	0	0	N/A	0
Died with or without beneficiary	-3	-3	-14	-75	39 <sup>(3)</sup>	-56
Data adjustments	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Number as of December 31, 2015	4,071	1,047	610	3,513	530	9,771

<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they have less than five years of service.

<sup>(2)</sup> Includes members who are included for the first time in this year's valuation as they were hired and terminated in the 2015 calendar year.

<sup>(3)</sup> This is the net increase in the number of beneficiaries after subtracting the number of beneficiaries who died during the year.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT D**

**Summary Statement of Income and Expenses on an Actuarial Value Basis**

	Year Ended December 31, 2015	Year Ended December 31, 2014
<b>Contribution income:</b>		
Employer contributions	\$68,239,981	\$61,179,319
Employee contributions	<u>38,713,777</u>	<u>37,126,072</u>
Net contribution income	\$106,953,758	\$98,305,391
<b>Investment income:</b>		
Interest, dividends and other income	\$53,531,277	\$56,821,792
Recognition of capital appreciation	132,581,481	158,289,584
Less investment fees and administrative expenses	<u>-21,855,593</u>	<u>-21,312,110</u>
Net investment income	<u>164,257,165</u>	<u>193,799,266</u>
<b>Total income available for benefits</b>	<b>\$271,210,923</b>	<b>\$292,104,657</b>
<b>Less benefit payments:</b>		
Service retirement and disability benefits	-\$147,277,253	-\$140,429,773
Member refunds	<u>-2,086,976</u>	<u>-1,245,610</u>
Net benefit payments	-\$149,364,229	-\$141,675,383
<b>Change in assets held for future benefits</b>	<b>\$121,846,694</b>	<b>\$150,429,274</b>

*Results may be off due to rounding.*

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT E  
Summary Statement of Plan Assets**

	Year Ended December 31, 2015	Year Ended December 31, 2014
<b>Cash equivalents</b>	\$110,865,919	\$160,577,332
<b>Accounts receivable:</b>		
Contributions, interest and dividends, and securities sold	\$21,874,558	\$22,284,216
Other receivable	<u>73,448</u>	<u>152,135</u>
Total accounts receivable	21,948,006	22,436,351
<b>Investments:</b>		
Domestic and international stocks	1,317,954,822	\$1,370,683,219
Domestic bonds	459,049,337	374,923,467
Real estate	400,961,251	382,119,536
Securities lending collateral	83,095,677	113,076,856
Miscellaneous	<u>73,302,486</u>	<u>69,465,441</u>
Total investments at market value	<u>2,334,363,573</u>	<u>2,310,268,519</u>
<b>Total assets</b>	\$2,467,177,498	\$2,493,282,202
<b>Less accounts payable</b>	-\$185,050,068	-\$199,807,507
<b>Net assets at market value</b>	<u>\$2,282,127,429</u>	<u>\$2,293,474,695</u>
<b>Net assets at actuarial value</b>	<u>\$2,289,056,790</u>	<u>\$2,167,210,096</u>
<b>Net assets at valuation value</b>	<u>\$2,289,056,790</u>	<u>\$2,167,210,096</u>

*Results may be off due to rounding.*

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**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 are anticipated to 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.

**Actuarial Balance Sheet (Dollar Amounts in Thousands)**

<b>Assets</b>	Basic	COLA	Total
1 Total valuation assets	\$2,244,269	\$44,788	\$2,289,057
2 Present value of future contributions by members <sup>(1)</sup>	\$258,904	\$0	\$258,904
3 Present value of future employer contributions for:			
a Entry age normal cost	\$221,847	\$0	\$221,847
b Unfunded actuarial accrued liability <sup>(1)</sup>	<u>\$405,922</u>	<u>\$0</u>	<u>\$405,922</u>
4 Total current and future assets	\$3,130,942	\$44,788	\$3,175,730
<b>Liabilities</b>			
5 Present value of benefits already granted	\$1,588,859	\$44,788	\$1,633,647
6 Present value of benefits to be granted	<u>\$1,542,083</u>	<u>\$0</u>	<u>\$1,542,083</u>
7 Total liabilities	\$3,130,942	\$44,788	\$3,175,730

<sup>(1)</sup> Before reflecting supplemental contributions payable by certain members for the UAAL.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT G**

**Summary of Reported Reserve Information as of December 31, 2015**

<b>Reserves</b>			
	Before True-Up	After True-Up	Transfer Amount
Member reserves <sup>(1)</sup>			
General	\$385,907,674	\$385,907,674	\$0
Safety	127,535,845	127,535,845	0
Employer reserves <sup>(1)</sup>			
General	\$488,320,286	\$443,880,679	\$(44,439,607)
Safety	210,246,124	189,447,582	(20,798,542)
Retired member reserve <sup>(1)</sup>			
General	\$1,148,756,393	\$1,193,196,000	\$44,439,607
Safety	374,863,458	395,662,000	20,798,542
COLA	43,531,388	44,788,000	1,256,612
Negative contingency reserve <sup>(1)</sup>	(490,104,376)	(491,360,990)	(1,256,614)
Total valuation reserve <sup>(1)</sup>	2,289,056,792	2,289,056,790	(2)
Undistributed reserve <sup>(2)</sup>	0	0	0
Interest fluctuation reserve <sup>(2)</sup>	0	0	0
Market stabilization reserve <sup>(2)</sup>	(6,929,363)	(6,929,361)	2
Net market value	\$2,282,127,429	\$2,282,127,429	\$0

<sup>(1)</sup> *Included in development of valuation value of assets.*

<sup>(2)</sup> *Not included in development of valuation value of assets.*

*Results may be off due to rounding.*

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT H**

**Development of Unfunded Actuarial Accrued Liability for Year Ended December 31, 2015**

	(Dollar Amounts in Thousands)
1 Unfunded Actuarial Accrued Liability as of December 31, 2014	\$343,043
2 Normal Cost	70,337
3 Expected employer and member contributions	(100,009)
4 Interest	<u>24,727</u>
5 Expected Unfunded Actuarial Accrued Liability	\$338,098
6 Actuarial (gains)/losses due to all changes:	
<u>Experience (gains)/losses</u>	
(a) Investment gain	\$(3,307)
(b) Greater than expected contributions <sup>(1)</sup>	(3,519)
(c) Lower than expected salary increases	(12,829)
(d) Other experience gains	<u>(2,546)</u>
(e) Total experience gains and losses	(22,201)
7 Assumption changes	93,686
8 County's additional UAAL payment	<u>(3,661)</u>
9 Total changes	<u>\$67,824</u>
10 Unfunded Actuarial Accrued Liability as of December 31, 2015	\$405,922

<sup>(1)</sup> Includes impact of 18-month delay in rate implementation, phase-in of the impact of the changes in actuarial assumptions on the employer contribution rate and difference between normal cost and UAAL contributions due to actual payroll less than expected during 2015.

Note: Net gain from other experience of \$15.4 million (as shown on page 8) is equal to 6(c)+ 6(d).

### **SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

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#### **EXHIBIT I**

##### **Section 415 Limitations**

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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 \$210,000 for 2015 and 2016. 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.

Plan A benefits 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.

Plan A contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

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**EXHIBIT J**  
**Definitions of Pension Terms**

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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 (Overfunded) 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 recognizing the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

**SECTION 3: Supplemental Information for the Sonoma County Employees' Retirement Association**

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**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 market gains and losses to avoid significant swings in the value of assets from one year to the next.

## SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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### EXHIBIT I

#### Summary of Actuarial Valuation Results

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

1. Retired members as of the valuation date (including 530 beneficiaries in pay status)	4,653
2. Members inactive during year ended December 31, 2015 with vested rights <sup>(1)</sup>	1,047
3. Members active during the year ended December 31, 2015	4,071

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

1. Normal cost	\$72,321
2. Present value of future benefits	3,175,730
3. Present value of future normal costs	480,751
4. Actuarial accrued liability	2,694,979
Retired members and beneficiaries	\$1,633,647
Inactive members with vested rights	82,020
Active members	979,312
5. Valuation value of assets <sup>(2)</sup> (\$2,282,127 at market value as reported by Retirement Association)	2,289,057
6. Unfunded actuarial accrued liability	\$405,922

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<sup>(1)</sup> Includes members who choose to leave their contributions on deposit even though they may have less than five years of service.

<sup>(2)</sup> Excludes non-valuation reserves.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results**

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

	<b>Dollar Amount</b>	<b>% of Payroll</b>
1. Total normal cost	\$72,321	21.30%
2. Expected employee normal cost contributions (excluding expected employee supplemental contributions)	<u>29,214</u>	<u>8.60%</u>
3. Employer normal cost: (1) + (2)	\$43,107	12.70%
4. Amortization of unfunded actuarial accrued liability (less expected employee supplemental contributions to reduce the employer's UAAL)	<u>26,069</u>	<u>7.68%</u>
5. Total recommended average employer contribution: (3) + (4)	\$69,176	20.38%
6. Projected compensation	\$339,518	

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**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**EXHIBIT II**

**Schedule of Employer Contributions (Dollar Amounts in Thousands)**

<b>Plan Year Ended December 31</b>	<b>Annual Required Contributions</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2006	\$29,391	\$29,391	100.0%
2007	34,273	34,273	100.0%
2008	38,553 <sup>(1)</sup>	38,553	100.0% <sup>(1)</sup>
2009	47,577 <sup>(1)</sup>	47,577	100.0% <sup>(1)</sup>
2010	48,426 <sup>(2)</sup>	48,426 <sup>(3)</sup>	100.0% <sup>(2)</sup>
2011	35,711 <sup>(4)</sup>	35,711	100.0% <sup>(4)</sup>
2012	45,079 <sup>(2)</sup>	45,079	100.0% <sup>(2)</sup>
2013	51,852 <sup>(5)</sup>	51,852	100.0% <sup>(5)</sup>
2014	61,179 <sup>(6)</sup>	61,179	100.0% <sup>(6)</sup>
2015	64,687	68,240	105.5%

<sup>(1)</sup> Determined using an amortization period of about 29 years (an amortization period of up to 30 years was allowed by GASB).

<sup>(2)</sup> Determined using an amortization period of about 26 years (an amortization period of up to 30 years was allowed by GASB).

<sup>(3)</sup> Excludes \$289.3 million in proceeds from issuance of Pension Obligation Bonds.

<sup>(4)</sup> Determined using an amortization period of about 23 years (an amortization period of up to 30 years was allowed by GASB).

<sup>(5)</sup> Determined using an amortization period of about 27 years (an amortization period of up to 30 years was allowed by GASB).

<sup>(6)</sup> Determined using an amortization period of about 28 years (an amortization period of up to 30 years was allowed by GASB).

Note: Reference to GASB is under the old Statements 25 and 27.

## SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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### EXHIBIT III

#### Actuarial Assumptions and Actuarial Cost Method

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##### Mortality Rates:

##### Healthy Retirement:

For General Members: Headcount-Weighted RP-2014 Healthy Annuitant Table projected 20 years with the two-dimensional scale MP20142D set back one year for males and set forward one year for females.

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Table projected 20 years with the two-dimensional scale MP20142D set back one year.

##### Disabled Retirement:

Headcount-Weighted RP-2014 Healthy Annuitant Table projected 20 years with the two-dimensional scale MP20142D set forward five years.

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Table projected 20 years with the two-dimensional scale MP20142D set forward four years.

The mortality tables shown above were determined to have a 15% to 20% margin to reflect future mortality improvement, based on a review of the mortality experience in the January 1, 2012 – December 31, 2014 Actuarial Experience Study.

##### Employee Contribution Rates:

For General Members: Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year for males and set forward one year for females weighted 33.33% male and 66.67% female.

For Safety Members: Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year weighted 75% male and 25% female.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Termination Rates Before Retirement:**

**Mortality Rates:**

Age	Rate (%)			
	General		Safety	
	Male	Female	Male	Female
30	0.02	0.01	0.02	0.01
35	0.03	0.01	0.03	0.01
40	0.03	0.02	0.03	0.02
45	0.05	0.03	0.05	0.03
50	0.08	0.06	0.08	0.06
55	0.14	0.09	0.14	0.09
60	0.23	0.12	0.23	0.12

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

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Disability Rates:**

Age	Rate (%)	
	General <sup>(1)</sup>	Safety <sup>(2)</sup>
20	0.05	0.06
25	0.05	0.16
30	0.08	0.38
35	0.13	0.65
40	0.18	0.90
45	0.29	1.60
50	0.38	2.30
55	0.43	2.80
60	0.51	0.00

<sup>(1)</sup> 50% of General disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected disabilities.

<sup>(2)</sup> 95% of Safety disabilities are assumed to be service connected disabilities. The other 5% are assumed to be non-service connected disabilities.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Withdrawal Rates:**

Rate (%)		
Years of Service	Withdrawal (< 5 Years of Service)	
	General	Safety
0	6.0	4.0
1	4.0	2.4
2	3.0	1.6
3	2.5	1.6
4	2.0	1.6

Rate (%)		
Age	Withdrawal (5+ Years of Service)	
	General	Safety
20	1.50	1.60
25	1.50	1.60
30	1.50	1.26
35	1.05	0.70
40	0.60	0.34
45	0.44	0.14
50	0.34	0.00
55	0.24	0.00
60	0.14	0.00

*No withdrawal is assumed after a member is assumed to retire.*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Vested Termination Rates:**

Rate (%)		
Vested Termination (<5 Years of Service)		
Years of Service	General	Safety
0	6.25	6.00
1	5.50	4.00
2	4.00	4.00
3	3.00	4.00
4	3.00	4.00

Rate (%)		
Vested Termination (5+ Years of Service)		
Age	General	Safety
20	3.00	4.00
25	3.00	4.00
30	3.00	3.40
35	3.00	2.10
40	2.40	1.05
45	2.00	0.60
50	2.00	0.00
55	1.70	0.00
60	1.50	0.00

*No vested termination is assumed after a member is assumed to retire.*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Retirement Rates:**

Age	Rate (%)					
	General			Safety		
	Plan A Before 30 Years	Plan A 30 or More Years	Plan B	Plan A Before 30 Years	Plan A 30 or More Years	Plan B
50	7.0	10.0	0.0	14.0	10.0	4.0
51	7.0	10.0	0.0	16.0	12.0	5.0
52	7.0	12.0	4.0	16.0	18.0	6.0
53	8.0	16.0	1.5	18.0	25.0	6.0
54	9.0	20.0	2.5	24.0	50.0	8.0
55	10.0	25.0	2.5	30.0	100.0	20.0
56	10.0	30.0	4.5	30.0	100.0	15.0
57	10.0	30.0	5.5	25.0	100.0	15.0
58	15.0	30.0	6.5	25.0	100.0	20.0
59	20.0	40.0	7.5	25.0	100.0	20.0
60	25.0	40.0	8.5	100.0	100.0	100.0
61	25.0	45.0	9.5	100.0	100.0	100.0
62	30.0	45.0	14.5	100.0	100.0	100.0
63	30.0	45.0	16.5	100.0	100.0	100.0
64	30.0	45.0	19.0	100.0	100.0	100.0
65	30.0	45.0	24.0	100.0	100.0	100.0
66	40.0	45.0	20.0	100.0	100.0	100.0
67	40.0	50.0	20.0	100.0	100.0	100.0
68	50.0	50.0	20.0	100.0	100.0	100.0
69	80.0	80.0	20.0	100.0	100.0	100.0
70	100.0	100.0	100.0	100.0	100.0	100.0

#### SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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<b>Retirement Age and Benefit for Deferred Vested Members:</b>	<p>For deferred vested members, we make the following retirement assumption:</p> <p>General: Age 58</p> <p>Safety: Age 52</p> <p>We assumed that 30% of General and 45% of Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 4.00% compensation increases per annum.</p>
<b>Future Benefit Accruals:</b>	1.0 year of service per year.
<b>Unknown Data for Members:</b>	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
<b>Definition of Active Members:</b>	First day of pay period following employment.
<b>Percent Married:</b>	70% of male members and 55% of female members are assumed to be married at retirement or pre-retirement death.
<b>Age of Spouse:</b>	Male retirees are 4 years older than their spouses and Female retirees are 2 years younger than their spouses.
<b>Net Investment Return:</b>	7.25%; net of administration and investment expenses.
<b>Employee Contribution Crediting Rate:</b>	½ of the net investment return credited semi-annually.
<b>Cost-of-Living Adjustment for Retirees:</b>	Not applicable.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Salary Scale:**

Annual Rate of Compensation Increase

Inflation: 3.00% per year; plus "Across the Board" salary increases of 0.50% per year; plus Merit and Promotion increases as follows:

Years of Service	General	Safety
0	6.00%	8.50%
1	5.00	4.75
2	3.75	3.75
3	2.50	2.75
4	1.50	1.75
5+	0.50	0.50

**Cashouts for General Plan A Court members:**

The following assumption for a one-time compensation increase at retirement from vacation, sick leave and holiday cashouts is used:

General members: 4%

Note: For the purposes of calculating member contribution rates, these assumptions are adjusted by a factor of 91% since about 9% of the full costs included above have been determined by SCERA to be from the cashout of sick leave which is excluded from the cashout cost paid by the active members.

**Cashouts for Plan A VOM members:**

The following assumptions for a one-time compensation increase at retirement from vacation, sick leave and holiday cashouts are used:

General members: 4%  
Safety members: 6%

**Increase in Section 7522.10 Compensation Limit:**

Increase of 3.00% per year from the valuation date.

#### SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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<b>Actuarial Value of Assets:</b>	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on valuation value and are recognized over a five-year period.
<b>Valuation Value of Assets:</b>	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
<b>Actuarial Cost Method:</b>	Entry Age Actuarial Cost Method. Entry Age is the age at the member's hire date. Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation.

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#### **Changes in Actuarial Assumptions and Methods:**

Based on the December 31, 2014 Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions were as follows:

#### **Mortality Rates:**

##### **Healthy Retirement:**

For General Members – RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015 set back two years.  
For Safety Members – RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015.

##### **Disabled Retirement:**

For General Members – RP-2000 Disabled Retiree Mortality Table projected with Scale AA to 2015 set back four years.  
For Safety Members – RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015 set forward six years.

##### **Employee Contribution Rates:**

For General Members – RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015 set back two years weighted 30% male and 70% female.  
For Safety Members – RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015 weighted 75% male and 25% female.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Termination Rates Before Retirement:**

**Mortality Rates:**

Age	Rate (%)			
	General		Safety	
	Male	Female	Male	Female
30	0.02	0.01	0.02	0.01
35	0.03	0.02	0.04	0.02
40	0.04	0.02	0.05	0.03
45	0.06	0.04	0.06	0.04
50	0.07	0.05	0.08	0.06
55	0.11	0.09	0.14	0.12
60	0.21	0.18	0.26	0.23

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

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Disability Rates:**

Age	Rate (%)	
	General <sup>(1)</sup>	Safety <sup>(2)</sup>
20	0.05	0.06
25	0.05	0.16
30	0.06	0.38
35	0.12	0.95
40	0.24	1.40
45	0.33	1.80
50	0.41	2.30
55	0.51	2.80
60	0.70	0.00

<sup>(1)</sup> 50% of General disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected disabilities.

<sup>(2)</sup> 90% of Safety disabilities are assumed to be service connected disabilities. The other 10% are assumed to be non-service connected disabilities.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

---

**Changes in Actuarial Assumptions and Methods (continued):**

**Withdrawal Rates:**

Years of Service	Rate (%)	
	Withdrawal (< 5 Years of Service)	
	General	Safety
0	7.0	5.0
1	5.0	3.0
2	4.0	2.0
3	3.0	2.0
4	2.5	2.0

Age	Rate (%)	
	Withdrawal (5+ Years of Service)	
	General	Safety
20	2.50	2.00
25	2.50	2.00
30	2.20	1.58
35	1.28	0.88
40	0.68	0.42
45	0.48	0.18
50	0.34	0.00
55	0.24	0.00
60	0.14	0.00

*No withdrawal is assumed after a member is assumed to retire.*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Vested Termination Rates:**

Years of Service	Rate (%)	
	Vested Termination (<5 Years of Service)	
	General	Safety
0	6.0	4.0
1	5.0	4.0
2	4.0	4.0
3	3.0	4.0
4	3.0	4.0

Age	Rate (%)	
	Vested Termination (5+ Years of Service)	
	General	Safety
20	3.00	2.00
25	3.00	2.00
30	3.00	2.00
35	3.00	1.40
40	2.40	0.94
45	1.85	0.84
50	1.60	0.00
55	1.05	0.00
60	0.75	0.00

*No vested termination is assumed after a member is assumed to retire.*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Retirement Rates:**

Age	Rate (%)		
	General		Safety
	Plan A Before 30 Years	Plan A 30 or More Years	Plan A Before 30 Years
50	7.0	10.0	10.0
51	7.0	10.0	12.0
52	7.0	12.0	18.0
53	8.0	14.0	19.0
54	9.0	15.0	20.0
55	9.0	20.0	25.0
56	10.0	22.0	25.0
57	13.0	22.0	25.0
58	15.0	25.0	25.0
59	17.0	35.0	25.0
60	21.0	45.0	100.0
61	25.0	45.0	100.0
62	40.0	45.0	100.0
63	35.0	45.0	100.0
64	35.0	45.0	100.0
65	35.0	45.0	100.0
66	35.0	45.0	100.0
67	40.0	50.0	100.0
68	50.0	50.0	100.0
69	80.0	80.0	100.0
70	100.0	100.0	100.0

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Retirement Age and Benefit for Deferred Vested Members:** For deferred vested members, we make the following retirement assumption:  
 General: Age 58  
 Safety: Age 53  
 We assumed that 30% of General and 45% of Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 4.00% compensation increases per annum.

---

**Percent Married:** 75% of male members and 55% of female members are assumed to be married at retirement or pre-retirement death.

**Age of Spouse:** Females (or male) spouses are 3 years younger (older) than their spouses.

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**Net Investment Return:** 7.50%; net of administration and investment expenses.

**Salary Scale:**

Annual Rate of Compensation Increase

---

Inflation: 3.25% per year; plus "Across the Board" salary increases of 0.75% per year; plus Merit and Promotion increases as follows:

Years of Service	General	Safety
0	6.00%	8.50%
1	5.00	4.75
2	3.75	3.75
3	2.50	2.75
4	1.50	1.75
5+	0.50	0.50

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods (continued):**

**Increase in Section 7522.10**

**Compensation Limit:** Increase of 3.25% per year from the valuation date.

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## SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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### EXHIBIT IV

#### Summary of Plan Provisions

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

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<b>Membership Eligibility:</b>	All permanent employees of the County of Sonoma or contracting district, scheduled to work at least 50% of a full-time position are eligible to become a member of the Retirement Association.
<i>Plan A</i>	All General and Safety members with membership dates before January 1, 2013.
<i>Plan B</i>	All General and Safety members with membership dates on or after January 1, 2013.

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#### Final Compensation for Benefit Determination:

<i>Plan A</i>	Highest consecutive one year of compensation earnable (§31462.1)(FAC1).
<i>Plan B</i>	Highest consecutive three years of pensionable compensation (§7522.10(c), §7522.32 and §7522.34)(FAC3).

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**Service:** Years of service (Yrs).

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#### Service Retirement Eligibility:

<i>General</i>	
<i>Plan A</i>	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 30 years of service credit, regardless of age (§31672).
<i>Plan B</i>	Age 52 with 5 years of service credit (§7522.20(a)).
<i>Safety</i>	
<i>Plan A</i>	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 30 years of service credit, regardless of age (§31672).
<i>Plan B</i>	Age 50 with 5 years of service credit (§7522.25(d)).

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Benefit Formula:**

	<b>Retirement Age</b>	<b>Benefit Formula</b>
<i>General Plan A – County (§31676.17)</i>	50	$(2.00\% \times \text{FAC1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.50\% \times \text{FAC1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Plan A – Court (§31676.17)</i>	50	$(2.00\% \times \text{FAC1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.50\% \times \text{FAC1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Plan A – Valley of the Moon (§31676.17)</i>	50	$2.00\% \times \text{FAC1} \times \text{Yrs}$
	55	$2.50\% \times \text{FAC1} \times \text{Yrs}$
	60 or later	$3.00\% \times \text{FAC1} \times \text{Yrs}$
<i>General Plan B (§7522.20(a))</i>	52	$1.00\% \times \text{FAC3} \times \text{Yrs}$
	55	$1.30\% \times \text{FAC3} \times \text{Yrs}$
	60	$1.80\% \times \text{FAC3} \times \text{Yrs}$
	62	$2.00\% \times \text{FAC3} \times \text{Yrs}$
	65	$2.30\% \times \text{FAC3} \times \text{Yrs}$
	67 or later	$2.50\% \times \text{FAC3} \times \text{Yrs}$

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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	<b>Retirement Age</b>	<b>Benefit Formula</b>
<i>Safety Plan A – County (§31664.1)</i>	50	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Plan A – Valley of the Moon (§31664.1)</i>	50	$3.00\% \times \text{FAC1} \times \text{Yrs}$
	55	$3.00\% \times \text{FAC1} \times \text{Yrs}$
	60 or later	$3.00\% \times \text{FAC1} \times \text{Yrs}$
<i>Safety Plan B (§7522.25(d))</i>	50	$2.00\% \times \text{FAC3} \times \text{Yrs}$
	55	$2.50\% \times \text{FAC3} \times \text{Yrs}$
	57 or later	$2.70\% \times \text{FAC3} \times \text{Yrs}$

**Maximum Benefit:**

<i>Plan A</i>	100% of Final Average Compensation (§31676.17, §31664.1)
<i>Plan B</i>	None

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Non Service Connected Disability:**

*General Plan A Members*

*Eligibility*

Five years of service (§31720).

*Benefit Formula*

1.8% of FAC per year of service. If the benefit does not exceed one-third of Final Average Compensation, the service is projected to 62, and the total benefit cannot be more than one-third of Final Average Compensation (§31727.1). The Service Retirement benefit is payable, if greater.

*Safety Plan A Members*

*Eligibility*

Five years of service (§31720).

*Benefit Formula*

1.8% of FAC per year of service. If the benefit does not exceed one-third of Final Average Compensation, the service is projected to 55, and the total benefit cannot be more than one-third of Final Average Compensation (§31727.2). The Service Retirement benefit is payable, if greater.

*All Plan B Members*

*Eligibility*

Five years of service (§31720).

*Benefit Formula*

1.5% of FAC per year of service. If the benefit does not exceed one-third of Final Average Compensation, the service is projected to 65, and the total benefit cannot be more than one-third of Final Average Compensation (§31727). The Service Retirement benefit is payable, if greater.

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**Service Connected Disability:**

*All Members*

*Eligibility*

No age or service requirements (§31720).

*Benefit Formula*

50% of the Final Average Compensation or 100% of Service Retirement benefit, if larger (§31727.4).

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Pre-Retirement Death:**

All Members

<i>Eligibility</i>	None.
<i>Basic lump sum benefit</i>	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§37181).
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or registered domestic partner (§31787).

OR

Vested Members

<i>Eligibility</i>	Five years of service.
<i>Basic benefit</i>	60% of the greater of Service or Non Service Connected Disability Retirement benefit payable to surviving eligible spouse or registered domestic partner (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or registered domestic partner (§31787).

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**Death After Retirement:**

All Members

<i>Service or Non Service Connected Disability Retirement</i>	60% of member's unmodified allowance continued to eligible spouse or registered domestic partner (§31760.1).
<i>Service Connected Disability Retirement</i>	100% of member's unmodified allowance continued to eligible spouse or registered domestic partner (§31786).

## SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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### Withdrawal Benefits:

<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). A member may also elect to leave contributions on deposit in the retirement fund (§31629.5).
<i>Five or More Years Service</i>	If contributions left on deposit, eligible for retirement benefits at any time after meeting eligibility criteria to retire (§31700).

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### Employer Contributions:

The amortization period for the outstanding balance of the December 31, 2007 Unfunded Actuarial Accrued Liability as well as for UAAL established on each subsequent valuation as a result of actuarial gains or losses and changes in actuarial assumptions is amortized over a declining 20-year period. The amortization period for UAAL established as a result of including as pensionable salary a cash allowance is amortized over a declining 20-year period with 12 years remaining as of December 31, 2014.

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### Member Contributions:

	Please refer to Appendix A for the specific rates.
<i>General Plan A</i>	Provide for an average annuity at age 55 equal to 1/100 of FAC. (§31621.8)
<i>General Plan B</i>	50% of the total Normal Cost rate.
<i>Safety Plan A</i>	Provide for an average annuity at age 50 equal to 1/100 of FAC. (§31639.25)
<i>Safety Plan B</i>	50% of the total Normal Cost rate.
<i>Additional Contributions</i>	
<i>General – County and Courts</i>	An additional amount equal to 3.03% of payroll will be paid from July 1, 2004 to June 30, 2024.
<i>Safety – County</i>	An additional amount equal to 3.00% of payroll will be paid effective February 1, 2005.

#### SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association

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**Other Information:**

Safety Plan A members with 30 or more years of service are exempt from paying member contributions. The same applies for General Plan A members hired on or before March 7, 1973.

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

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates**

Comparison of Total Member Rate<sup>(1)</sup> from December 31, 2015 (New) and December 31, 2014 (Current) Valuations

General Plan A – County <sup>(2)</sup>				Safety Plan A – County <sup>(4)</sup>			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	7.49%	7.32%	<b>(0.17%)</b>	25	8.32%	8.30%	<b>(0.02%)</b>
35	8.81%	8.75%	<b>(0.06%)</b>	35	9.80%	9.92%	<b>0.12%</b>
45	10.42%	10.49%	<b>0.07%</b>	45	11.80%	12.11%	<b>0.31%</b>
General Plan A – Court <sup>(2)</sup>				Safety Plan A – VOM			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	7.75%	7.58%	<b>(0.17%)</b>	25	8.76%	8.78%	<b>0.02%</b>
35	9.12%	9.05%	<b>(0.07%)</b>	35	10.31%	10.48%	<b>0.17%</b>
45	10.77%	10.84%	<b>0.07%</b>	45	12.31%	12.68%	<b>0.37%</b>
General Plan A – VOM				Safety Plan B – County <sup>(4)</sup>			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	7.75%	7.60%	<b>(0.15%)</b>	Any <sup>(3)</sup>	11.98%	11.36%	<b>(0.62%)</b>
35	9.12%	9.08%	<b>(0.04%)</b>				
45	10.77%	10.87%	<b>0.10%</b>				
General Plan B <sup>(2)</sup>				Safety Plan B – VOM			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
Any <sup>(3)</sup>	7.37%	7.40%	<b>0.03%</b>	Any <sup>(3)</sup>	10.36%	10.04%	<b>(0.32%)</b>

<sup>(1)</sup> For Plan A integrated members, contributions for the first \$350 of monthly payroll are based on 2/3 of the above rates.

<sup>(2)</sup> Rates exclude an additional 3.03% of payroll payable from July 1, 2004 to June 30, 2024 for County and Court members only.

<sup>(3)</sup> Plan B member rates are independent of entry age.

<sup>(4)</sup> Rates exclude an additional 3.00% of payroll payable effective February 1, 2005 for County members only.

Note: The change in member rates for Plan A members is due to the mortality, interest, and wage growth assumptions adopted by the Board for the December 31, 2015 valuation. While the change in mortality and interest assumptions both increase the member rates at all ages, this increase is more than offset at the younger ages and only partially offset at the older ages, by the change in wage growth assumption.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (continued)**

**General Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

Plan A – County			Plan A – Court			Plan A – VOM		
Entry Age	First \$350*	Over \$350	Entry Age	First \$350*	Over \$350	Entry Age	First \$350*	Over \$350
16	4.14%	6.20%	16	4.28%	6.43%	16	4.30%	6.45%
17	4.21%	6.32%	17	4.36%	6.55%	17	4.38%	6.57%
18	4.29%	6.44%	18	4.45%	6.67%	18	4.46%	6.69%
19	4.37%	6.56%	19	4.53%	6.79%	19	4.54%	6.82%
20	4.45%	6.68%	20	4.61%	6.92%	20	4.63%	6.94%
21	4.54%	6.80%	21	4.70%	7.05%	21	4.71%	7.07%
22	4.62%	6.93%	22	4.78%	7.18%	22	4.80%	7.20%
23	4.70%	7.06%	23	4.87%	7.31%	23	4.89%	7.33%
24	4.79%	7.18%	24	4.96%	7.44%	24	4.98%	7.47%
25	4.88%	7.32%	25	5.05%	7.58%	25	5.07%	7.60%
26	4.97%	7.45%	26	5.14%	7.71%	26	5.16%	7.74%
27	5.06%	7.58%	27	5.24%	7.85%	27	5.25%	7.88%
28	5.15%	7.72%	28	5.33%	7.99%	28	5.35%	8.02%
29	5.24%	7.86%	29	5.43%	8.14%	29	5.44%	8.17%
30	5.33%	8.00%	30	5.52%	8.28%	30	5.54%	8.31%
31	5.43%	8.15%	31	5.62%	8.43%	31	5.64%	8.46%
32	5.53%	8.29%	32	5.72%	8.58%	32	5.74%	8.61%
33	5.63%	8.44%	33	5.82%	8.74%	33	5.84%	8.77%
34	5.73%	8.59%	34	5.93%	8.89%	34	5.95%	8.92%
35	5.83%	8.75%	35	6.03%	9.05%	35	6.05%	9.08%
36	5.93%	8.90%	36	6.14%	9.21%	36	6.16%	9.24%
37	6.04%	9.06%	37	6.25%	9.38%	37	6.27%	9.41%
38	6.15%	9.22%	38	6.36%	9.54%	38	6.38%	9.58%
39	6.26%	9.39%	39	6.48%	9.71%	39	6.50%	9.75%
40	6.37%	9.56%	40	6.59%	9.89%	40	6.61%	9.92%

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (continued)**

**General Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

Plan A – County			Plan A – Court			Plan A – VOM		
Entry Age	First \$350*	Over \$350	Entry Age	First \$350*	Over \$350	Entry Age	First \$350*	Over \$350
41	6.49%	9.73%	41	6.71%	10.07%	41	6.73%	10.10%
42	6.61%	9.91%	42	6.83%	10.25%	42	6.86%	10.28%
43	6.73%	10.10%	43	6.96%	10.44%	43	6.98%	10.47%
44	6.86%	10.29%	44	7.09%	10.63%	44	7.11%	10.67%
45	6.99%	10.49%	45	7.22%	10.84%	45	7.25%	10.87%
46	7.13%	10.70%	46	7.37%	11.05%	46	7.39%	11.08%
47	7.28%	10.92%	47	7.51%	11.27%	47	7.54%	11.31%
48	7.44%	11.16%	48	7.68%	11.51%	48	7.70%	11.55%
49	7.62%	11.44%	49	7.85%	11.78%	49	7.88%	11.82%
50	7.76%	11.64%	50	7.98%	11.97%	50	8.00%	12.01%
51	7.85%	11.77%	51	8.06%	12.09%	51	8.08%	12.12%
52	7.88%	11.82%	52	8.07%	12.10%	52	8.08%	12.13%
53	7.84%	11.77%	53	7.98%	11.97%	53	8.00%	11.99%
54 & Over	7.76%	11.65%	54 & Over	7.76%	11.65%	54 & Over	7.76%	11.65%

Interest: 7.25%

COLA: 0.00%

Mortality: Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year for males and set forward one year for females weighted 33.33% male and 66.67% female.

Salary Increase: Inflation (3.00%) + Across the board increase (0.50%) + Merit (see Exhibit III)

**Note: The above rates exclude an additional 3.03% of payroll payable from July 1, 2004 to June 30, 2024 for County and Court members only.**

\* For integrated members only.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A  
Member Contribution Rates (continued)**

**General Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

	<b>Plan B</b>	
	<b>All Members</b>	<b>All Eligible Pay*</b>
Interest:	7.25%	7.40%
COLA:	0.00%	
Mortality:	Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year for males and set forward one year for females weighted 33.33% male and 66.67% female.	
Salary Increase:	Inflation (3.00%) + Across the board increase (0.50%) + Merit (see Exhibit III)	
<b>Note:</b>	<b>The above rates exclude an additional 3.03% of payroll payable from July 1, 2004 to June 30, 2024 for County and Court members only.</b>	

\* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the maximum compensation that can be taken into account for 2016 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2016. (reference: Section 7522.10(d)).*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (continued)**

**Safety Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

<b>Plan A – County</b>			<b>Plan A – VOM</b>		
<b>Entry Age</b>	<b>First \$350*</b>	<b>Over \$350</b>	<b>Entry Age</b>	<b>First \$350*</b>	<b>Over \$350</b>
16	4.70%	7.05%	16	4.98%	7.47%
17	4.79%	7.18%	17	5.07%	7.60%
18	4.87%	7.31%	18	5.16%	7.74%
19	4.96%	7.45%	19	5.26%	7.88%
20	5.05%	7.58%	20	5.35%	8.03%
21	5.15%	7.72%	21	5.45%	8.17%
22	5.24%	7.86%	22	5.55%	8.32%
23	5.34%	8.00%	23	5.65%	8.47%
24	5.43%	8.15%	24	5.75%	8.62%
25	5.53%	8.30%	25	5.85%	8.78%
26	5.63%	8.45%	26	5.96%	8.94%
27	5.73%	8.60%	27	6.06%	9.10%
28	5.83%	8.75%	28	6.17%	9.26%
29	5.94%	8.91%	29	6.28%	9.42%
30	6.05%	9.07%	30	6.39%	9.59%
31	6.16%	9.23%	31	6.51%	9.76%
32	6.27%	9.40%	32	6.63%	9.94%
33	6.38%	9.57%	33	6.74%	10.12%
34	6.50%	9.74%	34	6.86%	10.30%
35	6.61%	9.92%	35	6.99%	10.48%
36	6.74%	10.10%	36	7.11%	10.67%
37	6.86%	10.29%	37	7.24%	10.87%
38	6.99%	10.49%	38	7.38%	11.07%
39	7.12%	10.69%	39	7.52%	11.27%
40	7.26%	10.90%	40	7.66%	11.49%

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (continued)**

**Safety Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

<b>Plan A – County</b>			<b>Plan A – VOM</b>		
<b>Entry Age</b>	<b>First \$350*</b>	<b>Over \$350</b>	<b>Entry Age</b>	<b>First \$350*</b>	<b>Over \$350</b>
41	7.41%	11.12%	41	7.81%	11.71%
42	7.57%	11.36%	42	7.97%	11.95%
43	7.74%	11.62%	43	8.14%	12.21%
44	7.94%	11.91%	44	8.33%	12.50%
45	8.07%	12.11%	45	8.45%	12.68%
46	8.16%	12.24%	46	8.52%	12.77%
47	8.20%	12.30%	47	8.52%	12.78%
48	8.21%	12.31%	48	8.44%	12.66%
49 & Over	8.03%	12.05%	49 & Over	8.03%	12.05%

Interest: 7.25%

COLA: 0.00%

Mortality: Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year weighted 75% male and 25% female.

Salary Increase: Inflation (3.00%) + Across the board increase (0.50%) + Merit (see Exhibit III)

**Note: The above rates exclude an additional 3.00% of payroll payable effective February 1, 2005 for County members only.**

\* For integrated members only.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (continued)**

**Safety Members' Contribution Rates from the December 31, 2015 Actuarial Valuation  
(As a Percentage of Monthly Payroll)**

<b>Plan B – County</b>		<b>Plan B – VOM</b>	
	<b>All Eligible Pay*</b>		<b>All Eligible Pay*</b>
All Members	11.36%	All Members	10.04%

Interest: 7.25%

COLA: 0.00%

Mortality: Headcount-Weighted RP-2014 Healthy Table projected 20 years with the two-dimensional scale MP2014D set back one year weighted 75% male and 25% female.

Salary Increase: Inflation (3.00%) + Across the board increase (0.50%) + Merit (see Exhibit III)

**Note: The above rates exclude an additional 3.00% of payroll payable effective February 1, 2005 for County members only.**

\* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the maximum compensation that can be taken into account for 2016 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2016. (reference: Section 7522.10(d)).*

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

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**Appendix B**  
**Schedule of Additional (non-SCERA) Employer Contributions**

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As requested by SCERA, we have provided the following additional employer contributions made by the employer to other outside parties. These rates are provided by the employer and we have not audited them against any other sources.

The County's total contributions toward retirement benefits include the contributions shown in this report which are paid to SCERA, along with payments to holders of Pension Obligation Bonds issued by the County in 1993, 2003 and 2010. The 1993 Pension Obligation Bond was paid-off in 2012/2013; therefore, the rates for 2013/2014 and later include only the payments for the 2003 and 2010 Pension Obligation Bonds. According to information supplied by the County, these contributions are projected to be made at the following percentage of covered payroll:

**Pension Obligation Bonds**

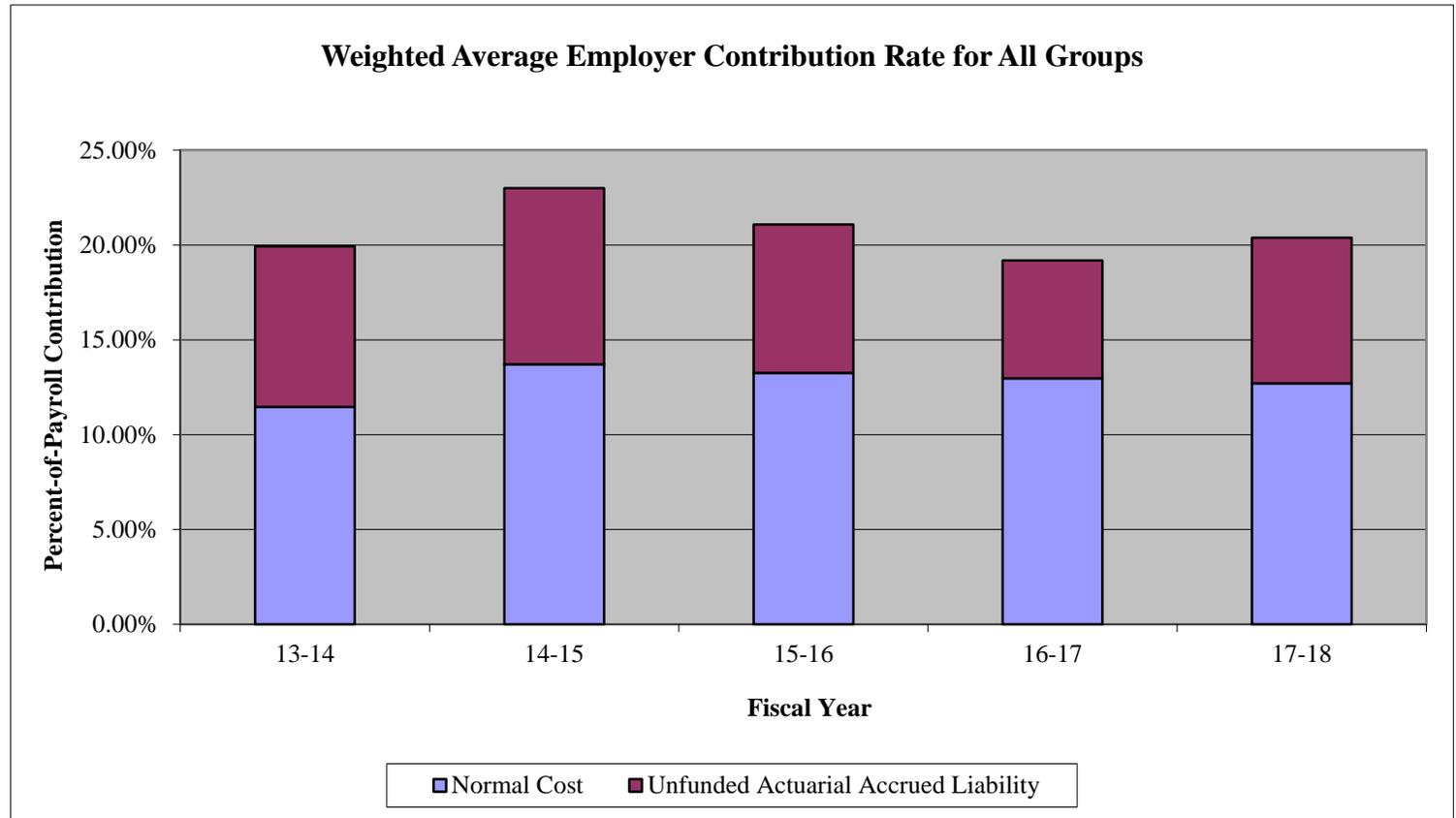
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<u>Fiscal Year</u>	<u>Rate as % of Payroll</u>
2007/2008	8.31%
2008/2009	8.11%
2009/2010	8.15%
2010/2011	15.55%
2011/2012	General – 15.43% Safety – 16.83%
2012/2013	General – 15.95% Safety – 17.80%
2013/2014	General – 13.69% Safety – 13.88%
2014/2015	General – 13.83% Safety – 14.01%
2015/2016	General – 13.28% Safety – 14.40%
2016/2017	Not Yet Available
2017/2018	Not Yet Available

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix C  
Average Employer Contribution Rates**

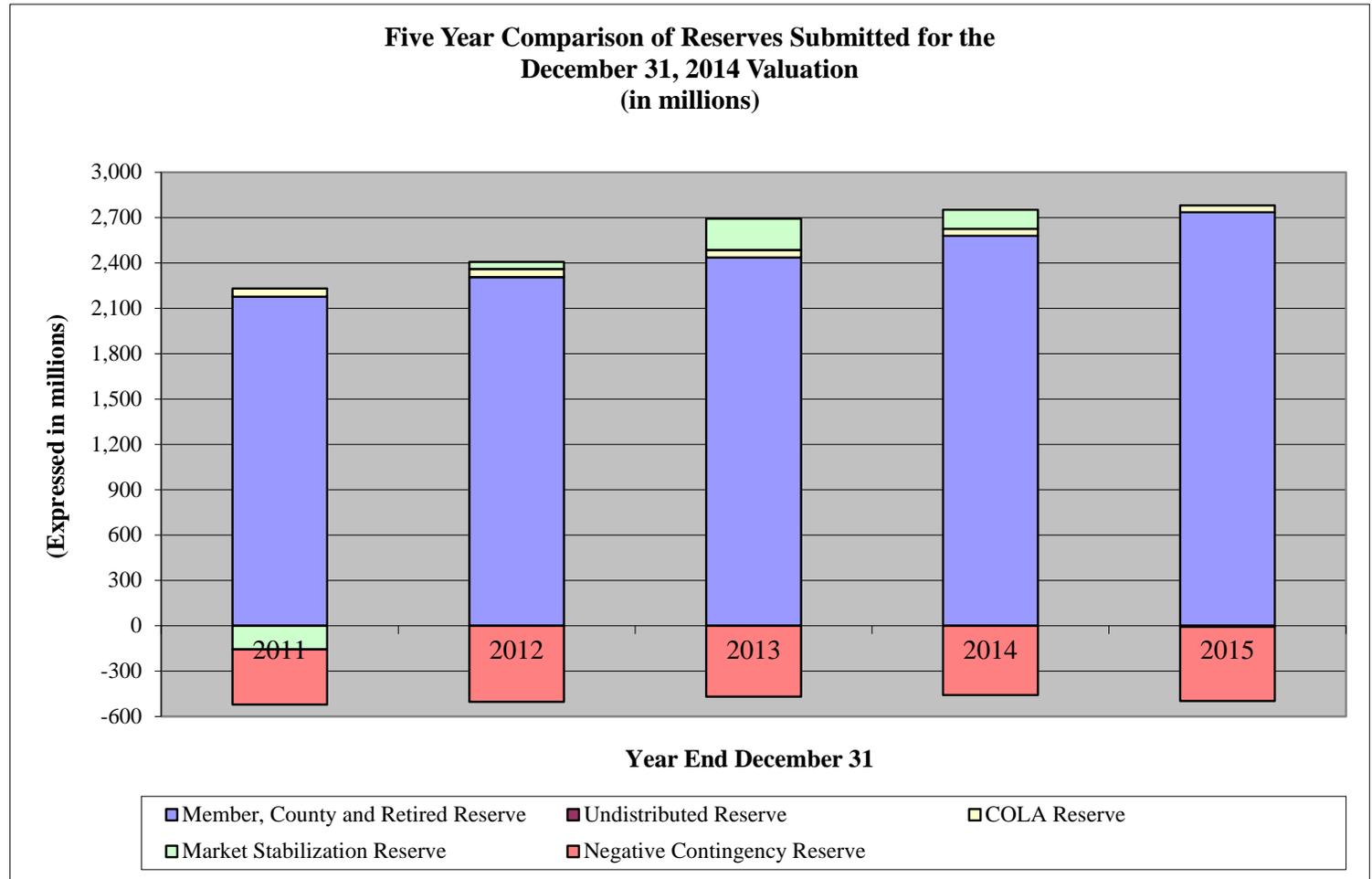
The following chart displays the historical average employer contribution rates, broken down by normal cost and unfunded actuarial accrued liability. These rates have not been adjusted for any contribution rate phase-in (if applicable).



**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix D  
Reserves**

The following chart displays the 5-year historical reserves balance after “true-up”.



**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix E**

**Amortization Schedule for UAAL (Dollar Amounts in Thousands)**

	<b>Date Established</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Annual Payment<sup>(3)</sup></b>
<b>General</b>	December 31, 2007	Restart amortization - County	\$123,396	\$33,004 <sup>(2)(4)</sup>	13	\$3,236
	December 31, 2007	Restart amortization - Court	8,599	8,174	13	801
	December 31, 2007 <sup>(1)</sup>	Cash Allowance - County	55,982	14,812 <sup>(2)(4)</sup>	12	1,547
	December 31, 2008	Actuarial loss - County	44,591	12,060 <sup>(2)(4)</sup>	13	1,182
	December 31, 2008	Actuarial loss - Court	3,107	2,986	13	293
	December 31, 2009 <sup>(1)</sup>	Early Retirement Option - County	1,448	398 <sup>(2)(4)</sup>	14	37
	December 31, 2009	Actuarial loss - County	45,691	12,561 <sup>(2)(4)</sup>	14	1,162
	December 31, 2009	Actuarial loss - Court	2,859	2,793	14	258
	December 31, 2009	Actuarial loss - VOM	13	13	14	1
	December 31, 2009	Assumption changes - County	10,990	3,021 <sup>(2)(4)</sup>	14	280
	December 31, 2009	Assumption changes - Court	688	672	14	62
	December 31, 2009	Assumption changes - VOM	3	3	14	0
	December 31, 2010	Actuarial loss - County	48,235	47,177 <sup>(4)</sup>	15	4,142
	December 31, 2010	Actuarial loss - Court	3,044	3,008	15	264
	December 31, 2010	Actuarial loss - VOM	14	14	15	1
	December 31, 2010	Assumption changes - County	37,393	36,572 <sup>(4)</sup>	15	3,211
	December 31, 2010	Assumption changes - Court	2,360	2,332	15	205
	December 31, 2010	Assumption changes - VOM	11	11	15	1
	December 31, 2011	Actuarial loss - County	74,087	73,028 <sup>(4)</sup>	16	6,108
	December 31, 2011	Actuarial loss - Court	4,760	4,740	16	396
	December 31, 2011	Actuarial loss - VOM	23	23	16	2
	December 31, 2012	Actuarial loss - County	71,616	70,874 <sup>(4)</sup>	17	5,670
	December 31, 2012	Actuarial loss - Court	4,188	4,188	17	335
	December 31, 2012	Actuarial loss - VOM	99	100	17	8
	December 31, 2012	Assumption changes - County	64,345	63,678 <sup>(4)</sup>	17	5,094
	December 31, 2012	Assumption changes - Court	3,763	3,762	17	301
	December 31, 2012	Assumption changes - VOM	89	90	17	7
	December 31, 2012	Compensation earnable change - County	(8,157)	(8,072) <sup>(4)</sup>	17	(646)
	December 31, 2012	Compensation earnable change - Court	(477)	(477)	17	(38)
	December 31, 2012	Compensation earnable change - VOM	(11)	(11)	17	(1)
	December 31, 2012	Cashout change - County	(20,626)	(20,413) <sup>(4)</sup>	17	(1,633)

<sup>(1)</sup> Payment is only made by the County and not by the Court or Valley of the Moon because the programs were only available to County employees.

<sup>(2)</sup> Adjusted to reflect \$289.3 million in proceeds from issuance of Pension Obligation Bonds by the County.

<sup>(3)</sup> Before adjustments for supplemental contributions paid by certain employees to reduce the employer's UAAL.

<sup>(4)</sup> Adjusted to reflect \$3.7 million from an additional UAAL payment by the County.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix E (continued)**

**Amortization Schedule for UAAL (Dollar Amounts in Thousands)**

	<b>Date Established</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Annual Payment<sup>(1)</sup></b>
<b>General (Continued)</b>	December 31, 2013	Actuarial gain - County	(35,260)	(34,999) <sup>(2)</sup>	18	(2,687)
	December 31, 2013	Actuarial gain - Court	(1,884)	(1,889)	18	(145)
	December 31, 2013	Actuarial gain - VOM	(38)	(38)	18	(3)
	December 31, 2014	Actuarial gain - County	(71,508)	(70,976) <sup>(2)</sup>	19	(5,244)
	December 31, 2014	Actuarial gain - Court	(3,657)	(3,667)	19	(271)
	December 31, 2014	Actuarial gain - VOM	(84)	(84)	19	(6)
	December 31, 2015	Actuarial gain - County	(15,879)	(15,718) <sup>(2)</sup>	20	(1,121)
	December 31, 2015	Actuarial gain - Court	(830)	(830)	20	(59)
	December 31, 2015	Actuarial gain - VOM	(18)	(18)	20	(1)
	December 31, 2015	Assumption changes - County	57,580	56,997 <sup>(2)</sup>	20	4,064
	December 31, 2015	Assumption changes - Court	3,009	3,009	20	215
	December 31, 2015	Assumption changes - VOM	64	<u>64</u>	20	<u>5</u>
<b>Subtotal</b>				<u>\$302,972</u>		<u>\$27,033</u>

<sup>(1)</sup> Before adjustments for supplemental contributions paid by certain employees to reduce the employer's UAAL.

<sup>(2)</sup> Adjusted to reflect \$3.7 million from an additional UAAL payment by the County.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix E (continued)**

**Amortization Schedule for UAAL (Dollar Amounts in Thousands)**

	<b>Date Established</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Annual Payment<sup>(3)</sup></b>
<b>Safety – County</b>	December 31, 2007	Restart amortization	\$43,504	\$11,652 <sup>(2)(4)</sup>	13	\$1,142
	December 31, 2007 <sup>(1)</sup>	Cash Allowance	14,693	3,893 <sup>(2)(4)</sup>	12	407
	December 31, 2008	Actuarial loss	7,603	2,059 <sup>(2)(4)</sup>	13	202
	December 31, 2009	Actuarial loss	28,643	7,884 <sup>(2)(4)</sup>	14	730
	December 31, 2009	Assumption changes	7,337	2,021 <sup>(2)(4)</sup>	14	187
	December 31, 2010	Actuarial loss	14,765	14,461 <sup>(4)</sup>	15	1,269
	December 31, 2010	Assumption changes	14,376	14,080 <sup>(4)</sup>	15	1,236
	December 31, 2011	Actuarial loss	24,746	24,426 <sup>(4)</sup>	16	2,043
	December 31, 2012	Actuarial loss	26,012	25,777 <sup>(4)</sup>	17	2,062
	December 31, 2012	Assumption changes	12,268	12,156 <sup>(4)</sup>	17	972
	December 31, 2012	Compensation earnable change	(2,613)	(2,589) <sup>(4)</sup>	17	(207)
	December 31, 2012	Cashout change	(11,987)	(11,879) <sup>(4)</sup>	17	(950)
	December 31, 2013	Actuarial gain	(6,051)	(6,014) <sup>(4)</sup>	18	(462)
	December 31, 2014	Actuarial gain	(26,652)	(26,490) <sup>(4)</sup>	19	(1,957)
	December 31, 2015	Actuarial gain	(5,153)	(5,108) <sup>(4)</sup>	20	(364)
	December 31, 2015	Assumption changes	31,096	<u>30,823<sup>(4)</sup></u>	20	<u>2,198</u>
<b>Subtotal</b>				<u>\$97,152</u>		<u>\$8,508</u>

<sup>(1)</sup> Payment is only made by the County and not by the Court or Valley of the Moon because the programs were only available to County employees.

<sup>(2)</sup> Adjusted to reflect \$289.3 million in proceeds from issuance of Pension Obligation Bonds by the County.

<sup>(3)</sup> Before adjustments for supplemental contributions paid by certain employees to reduce the employer's UAAL.

<sup>(4)</sup> Adjusted to reflect \$3.7 million from an additional UAAL payment by the County.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix E (continued)**

**Amortization Schedule for UAAL (Dollar Amounts in Thousands)**

	<b>Date Established</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Annual Payment<sup>(1)</sup></b>
<b>Safety – Valley of the Moon</b>	December 31, 2007	Restart amortization	\$1,852	\$1,760	13	\$173
	December 31, 2008	Actuarial loss	169	163	13	16
	December 31, 2009	Actuarial loss	678	662	14	61
	December 31, 2009	Assumption changes	174	170	14	16
	December 31, 2010	Actuarial loss	344	341	15	30
	December 31, 2010	Assumption changes	335	332	15	29
	December 31, 2011	Actuarial loss	639	636	16	53
	December 31, 2012	Actuarial loss	1,444	1,444	17	116
	December 31, 2012	Assumption changes	681	681	17	54
	December 31, 2012	Compensation earnable change	(145)	(145)	17	(12)
	December 31, 2013	Actuarial gain	(333)	(334)	18	(26)
	December 31, 2014	Actuarial gain	(1,524)	(1,528)	19	(113)
	December 31, 2015	Actuarial gain	(321)	(321)	20	(23)
	December 31, 2015	Assumption changes	1,937	<u>1,937</u>	20	<u>138</u>
<b>Subtotal</b>				<b>\$5,798</b>		<b>\$512</b>

<sup>(1)</sup> Before adjustments for supplemental contributions paid by certain employees to reduce the employer's UAAL.

**SECTION 4: Reporting Information for the Sonoma County Employees' Retirement Association**

**Appendix E (continued)**

**Amortization Schedule for UAAL (Dollar Amounts in Thousands)**

	<b>Date Established</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Annual Payment<sup>(2)</sup></b>
<b>Total</b>	December 31, 2007	Restart amortization	\$177,351	\$54,590 <sup>(1)(3)</sup>	13	\$5,352
	December 31, 2007	Cash Allowance	70,675	18,705 <sup>(1)(3)</sup>	12	1,954
	December 31, 2008	Actuarial loss	55,470	17,268 <sup>(1)(3)</sup>	13	1,693
	December 31, 2009	Early Retirement Option	1,448	398 <sup>(1)(3)</sup>	14	37
	December 31, 2009	Actuarial loss	77,884	23,913 <sup>(1)(3)</sup>	14	2,212
	December 31, 2009	Assumption changes	19,192	5,887 <sup>(3)</sup>	14	545
	December 31, 2010	Actuarial loss	66,402	65,001 <sup>(3)</sup>	15	5,706
	December 31, 2010	Assumption changes	54,475	53,327 <sup>(3)</sup>	15	4,682
	December 31, 2011	Actuarial loss	104,255	102,853 <sup>(3)</sup>	16	8,602
	December 31, 2012	Actuarial loss	103,359	102,383 <sup>(3)</sup>	17	8,191
	December 31, 2012	Assumption changes	81,146	80,367 <sup>(3)</sup>	17	6,428
	December 31, 2012	Compensation earnable change	(11,403)	(11,294) <sup>(3)</sup>	17	(904)
	December 31, 2012	Cashout change	(32,613)	(32,292) <sup>(3)</sup>	17	(2,583)
	December 31, 2013	Actuarial gain	(43,566)	(43,274) <sup>(3)</sup>	18	(3,323)
	December 31, 2014	Actuarial gain	(103,425)	(102,745) <sup>(3)</sup>	19	(7,591)
	December 31, 2015	Actuarial gain	(22,201)	(21,995) <sup>(3)</sup>	20	(1,568)
	December 31, 2015	Assumption changes	93,686	<u>92,830</u> <sup>(3)</sup>	20	<u>6,620</u>
<b>Subtotal</b>				\$405,922		\$36,053

<sup>(1)</sup> Adjusted to reflect \$289.3 million in proceeds from issuance of Pension Obligation Bonds by the County.

<sup>(2)</sup> Before adjustments for supplemental contributions paid by certain employees to reduce the employer's UAAL.

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