



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

John W. Monroe, ASA, MAAA, EA
Vice President & Associate Actuary
jmonroe@segalco.com

March 12, 2013

Ms. Marilyn Leedom
Chief Executive Officer
Contra Costa County Employees' Retirement Association
1355 Willow Way, Suite 221
Concord, CA 94520

MEETING DATE
MAR 27 2013
AGENDA ITEM
#4

**Re: Contra Costa County Employees' Retirement Association
Five-Year Projection of Employer Contribution Rate Changes
Based on Estimated 14.1% Gross Market Value Investment Return for 2012 and
Reflects Recently Adopted Changes in Economic Assumptions**

Dear Marilyn:

As requested, we have updated our five-year projection of estimated employer contribution rate changes for CCCERA. This projection is derived from the December 31, 2011 actuarial valuation results and incorporates an estimated gross market value investment return of 14.1% for the 2012 calendar year. The projections also reflect a change to the economic assumptions starting with the December 31, 2012 valuation. These changes were adopted by the Board in February 2013. Key assumptions and methods are detailed below.

Results

The estimated contribution rate changes shown on the next page apply to the recommended average employer contribution rate. For purposes of this projection, the rate changes that are reflected include the asset gains and losses that are funded as a level percentage of the Association's total active payroll base, as well as contribution increases from the changes in economic assumptions starting with the December 31, 2012 valuation.

The changes in contribution rate are due to: (1) deferred gains and losses from the actuarial asset smoothing methodology; (2) losses due to investment income not earned on the difference between the Actuarial Value of Assets (AVA) and Market Value of Assets (MVA) (and gains when the opposite occurs); (3) contribution gains and losses which occur from delaying the implementation of new rates until 18 months after the actuarial valuation date; and (4) contribution increases due to the changes in economic assumptions.

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The following table provides the year-to-year rate changes from each of the above components and the cumulative rate change over the five-year projection period. To obtain the estimated average employer contribution rate at each successive valuation date, these cumulative rate changes should be added to the rates developed from the December 31, 2011 valuation. These rate changes become effective 18 months following the actuarial valuation date shown in the table.

The rate changes shown below represent the average rate for the aggregate plan.

Rate Change Component	Valuation Date (12/31)				
	2012	2013	2014	2015	2016
(1) Deferred (Gains)/Losses	2.97%	0.02%	-0.89%	-0.42%	-0.13%
(2) (Gain)/Loss of Investment Income on Difference Between AVA and MVA	0.32%	-0.12%	-0.12%	-0.05%	-0.02%
(3) 18 Month Rate Delay	0.40%	0.88%	0.43%	-0.01%	-0.06%
(4) Changes in Economic Assumptions	<u>5.55%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Incremental Rate Change	9.24%	0.78%	-0.58%	-0.48%	-0.21%
Cumulative Rate Change	9.24%	10.02%	9.44%	8.96%	8.75%

The difference between these cumulative rate changes and those shown in our August 8, 2012 letter (i.e., previous five-year projection) are as follows:

	Valuation Date (12/31)				
	2012	2013	2014	2015	2016
Cumulative Rate Change From August 8, 2012 Letter	4.16%	5.25%	5.15%	5.32%	5.74%
Reflecting Actual Investment Return through 12/31/2012 and Changes in Economic Assumptions	9.24%	10.02%	9.44%	8.96%	8.75%
Difference	5.08%	4.77%	4.29%	3.64%	3.01%

The average employer contribution rate as of the December 31, 2011 Actuarial Valuation is 37.87%, and based on the cumulative rate changes above is projected to progress as shown below.

	Valuation Date (12/31)				
	2012	2013	2014	2015	2016
Average Employer Contribution Rate	47.11%	47.89%	47.31%	46.83%	46.62%

The rate change for an individual cost group or employer will vary depending primarily on the size of that group's assets and liabilities relative to its payroll. The ratio of the group's assets to payroll is sometimes referred to as the volatility index (VI). A higher VI results in more volatile contributions and can result from the following factors:

- More generous benefits
- More retirees
- Older workforce
- Higher funded ratio
- Issuance of Pension Obligation Bonds (POBs)

The attached exhibit shows the VI for CCCERA's cost groups along with the "relative VI" which is the VI for that specific cost group divided by the average VI for the aggregate plan. Using these ratios we have estimated the rate change due to the generally investment related net losses for each individual cost group by multiplying the rate changes shown above for the aggregate plan by the relative VI for each cost group. Note that the rate change for each individual cost group that is due to the changes in economic assumptions adopted for the December 31, 2012 actuarial valuation was estimated based on applying the assumption changes to the December 31, 2011 actuarial valuation. The estimated rate changes for each cost group are shown in the attached exhibit.

Note that because we have estimated the allocation of the rate changes across the cost groups, the actual rate changes by group may differ from those shown in the exhibit, even if the plan-wide average rate changes are close to those shown above.

Key Assumptions and Methods

The projection is based upon the following assumptions and methods:

- December 31, 2011 non-economic assumptions remain unchanged. Note that a study of these assumptions is currently in progress and any changes would also be reflected in the December 31, 2012 valuation.
- December 31, 2011 retirement benefit formulas remain unchanged.
- December 31, 2011 1937 Act statutes remain unchanged. In particular, these projections do not reflect any changes in benefits or contributions due to AB 340 ("PEPRA") or AB 197.
- UAAL amortization method remains unchanged (i.e., 18-year layers, level percent of pay).
- December 31, 2012 economic assumptions reflect the recently adopted recommendations from our Review of Economic Actuarial Assumptions for the December 31, 2012 Actuarial Valuation and remain unchanged in future years, including the 7.25% investment earnings assumption.
- The gross market value investment return of 14.1% during 2012 was reduced by an estimated 0.65% to account for investment and administrative expenses.
- Deferred investment gains and losses are recognized per the asset smoothing schedule prepared by the Association as of June 30, 2012. In addition, the estimated investment loss for the second half of 2012 is also recognized over a five-year period. They are funded as a level percentage of the Association's total active payroll base.
- We have assumed that returns of 7.25% are earned on a market value basis for each of the next four years after 2012.
- Deferred investment gains are all applied directly to reduce the UAAL. Note that this assumption may not be entirely consistent with the details of the Board's Interest Crediting and Excess Earnings Policy.
- Active payroll grows at 4.25% per annum during 2011 and then 4.00% per annum thereafter.
- The VI used for these projections is based on the December 31, 2011 Actuarial Valuation and is assumed to stay constant during the projection period.
- All other actuarial assumptions used in the December 31, 2011 actuarial valuation are realized.

- No changes are made to actuarial methodologies, such as adjusting for the contribution rate delay in advance.
- The projections do not reflect any changes in the employer contribution rates that could result due to future changes in the demographics of CCCERA's active members or decreases in the employer contribution rates that might result from new hires going into the PEPRA tiers.

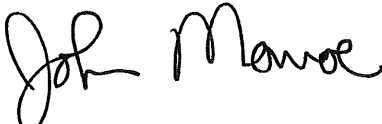
Finally, we emphasize that projections, by their nature, are not a guarantee of future results. The modeling projections are intended to serve as illustrations of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used. Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment.

Unless otherwise noted, all of the above calculations are based on the December 31, 2011 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these projections were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary.

The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Please let us know if you have any questions.

Sincerely,



John Monroe

AW/gxk
Enclosure

cc: Kurt Schneider

Exhibit
Contra Costa County Employees' Retirement Association
Estimated Employer Rate Change by Cost Group (CG) Based on December 31, 2011 Valuation with Estimated 14.1% Gross Market Value Return for 2012
Reflects Changes in Economic Assumptions Effective with December 31, 2012 Actuarial Valuation

	CG#1 & CG#2 Combined Enhanced General Tier 1 & 3	CG#3 Enhanced CCC Sanitary District Tier 1	CG#4 Enhanced Housing Authority Tier 1	CG#5 Enhanced CCCCFPD Tier 1	CG#6 Non-Enhanced District Tier 1
Market Value of Assets (MVA)*	\$2,791,051,968	\$168,880,730	\$33,106,617	\$34,055,510	\$3,977,453
Projected Payroll for 2012	\$483,579,864	\$24,734,871	\$5,625,516	\$3,512,267	\$760,772
Volatility Index (VI) = MVA/Payroll	5.77	6.83	5.89	9.70	5.23
Relative Volatility Index (VI) = CG VI / Total Plan VI	0.76	0.90	0.78	1.28	0.69
Estimated Incremental Rate Change as of 12/31/2012	6.84%	9.34%	7.27%	10.87%	6.27%
Estimated Incremental Rate Change as of 12/31/2013	0.60%	0.70%	0.61%	1.00%	0.54%
Estimated Incremental Rate Change as of 12/31/2014	-0.44%	-0.52%	-0.45%	-0.74%	-0.40%
Estimated Incremental Rate Change as of 12/31/2015	-0.37%	-0.43%	-0.37%	-0.62%	-0.33%
Estimated Incremental Rate Change as of 12/31/2016	-0.16%	-0.19%	-0.16%	-0.27%	-0.15%
Cumulative Rate Change as of 12/31/2012	6.84%	9.34%	7.27%	10.87%	6.27%
Cumulative Rate Change as of 12/31/2013	7.44%	10.04%	7.88%	11.87%	6.81%
Cumulative Rate Change as of 12/31/2014	7.00%	9.52%	7.43%	11.13%	6.41%
Cumulative Rate Change as of 12/31/2015	6.63%	9.09%	7.06%	10.51%	6.08%
Cumulative Rate Change as of 12/31/2016	6.47%	8.90%	6.90%	10.24%	5.93%

	CG#7 & CG#9 Combined Enhanced County Safety Tier A & C	CG#8 Enhanced CCCCFPD/East CCCCPT Safety Tier A	CG#10 Enhanced Moraga-Orinda FD Safety Tier A	CG#11 Enhanced San Ramon Valley FD Safety Tier A	CG#12 Non-Enhanced Rodeo-Hercules FPD Safety Tier A
Market Value of Assets (MVA)*	\$1,041,640,039	\$631,130,767	\$113,147,927	\$201,642,866	\$19,254,955
Projected Payroll for 2012	\$82,120,783	\$37,604,378	\$7,516,620	\$18,962,214	\$1,976,861
Volatility Index (VI) = MVA/Payroll	12.68	16.78	15.05	10.63	9.74
Relative Volatility Index (VI) = CG VI / Total Plan VI	1.68	2.22	1.99	1.41	1.29
Estimated Incremental Rate Change as of 12/31/2012	16.43%	19.77%	18.34%	14.82%	13.66%
Estimated Incremental Rate Change as of 12/31/2013	1.31%	1.73%	1.55%	1.10%	1.00%
Estimated Incremental Rate Change as of 12/31/2014	-0.97%	-1.29%	-1.15%	-0.82%	-0.75%
Estimated Incremental Rate Change as of 12/31/2015	-0.81%	-1.07%	-0.96%	-0.68%	-0.48%
Estimated Incremental Rate Change as of 12/31/2016	-0.35%	-0.47%	-0.42%	-0.30%	-0.21%
Cumulative Rate Change as of 12/31/2012	16.43%	19.77%	18.34%	14.82%	13.66%
Cumulative Rate Change as of 12/31/2013	17.74%	21.50%	19.89%	15.92%	14.66%
Cumulative Rate Change as of 12/31/2014	16.77%	20.21%	18.74%	15.10%	13.91%
Cumulative Rate Change as of 12/31/2015	15.96%	19.14%	17.78%	14.42%	13.29%
Cumulative Rate Change as of 12/31/2016	15.61%	18.67%	17.36%	14.12%	13.02%

Total Plan	Market Value of Assets (MVA)*	Projected Payroll for 2012	Volatility Index (VI) = MVA/Payroll	Relative Volatility Index (VI) = CG VI / Total Plan VI	Estimated Incremental Rate Change as of 12/31/2012	Estimated Incremental Rate Change as of 12/31/2013	Estimated Incremental Rate Change as of 12/31/2014	Estimated Incremental Rate Change as of 12/31/2015	Estimated Incremental Rate Change as of 12/31/2016	Cumulative Rate Change as of 12/31/2012	Cumulative Rate Change as of 12/31/2013	Cumulative Rate Change as of 12/31/2014	Cumulative Rate Change as of 12/31/2015	Cumulative Rate Change as of 12/31/2016
\$5,037,888,833	\$666,394,146	7,56	1.00	9.24%	9.24%	0.78%	-0.58%	-0.48%	-0.21%	9.24%	10.02%	9.44%	8.96%	8.75%

* Excludes Post Retirement Death Benefit reserve.

These rates do not include any employer subvention of member contributions or any member subvention of employer contributions.