Alameda County Employees' Retirement Association

Governmental Accounting Standards Board (GASB) Statement 67
Actuarial Valuation as of December 31, 2014

Segal Consulting

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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August 4, 2015

Board of Retirement
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, CA 94612

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2014. It contains various information that will need to be disclosed in order to comply with GASB Statement 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Association. The census and financial information on which our calculations were based was prepared by ACERA. 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; 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 expectations for the Association.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

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

By:

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

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SECTION 1

VALUATION SUMMARY

SECTION 2

GASB 67 INFORMATION

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards Board (GASB) Statement 67 as of December 31, 2014. This valuation is 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, and retired members and beneficiaries as of November 30, 2013, provided by the Retirement Association;
- The assets of the Plan as of December 31, 2014, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

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

- The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 is effective with the plan year ending December 31, 2014 for Plan reporting and Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. The information contained in this valuation is intended to be used (along with other information) in order to comply with Statement 67.
- It is important to note that the new GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices.
- When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as ACERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as ACERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.

- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. It should be noted that in determining the Plan's Fiduciary Net Position, we have only included 50% of the current deferred market gains[1] that would be available to the Pension Plan.
- As discussed in our triennial experience study report, the Actuarial Standard of Practice (ASOP) No. 4 ("*Measuring Pension Obligations and Determining Pension Plan Costs or Contributions"*) was recently revised and adopted in December 2013. The revised ASOP states that some plan provisions, including "gain sharing" provisions, "may create pension obligations that are difficult to appropriately measure using traditional valuation procedures." ASOP No. 4 now mentions that "for such plan provisions, the actuary should consider using alternative valuation procedures, such as stochastic modeling….to reflect the impact of variations in experience from year to year." The 50% allocation of future excess earnings to the SRBR for ACERA is an example of the gain sharing provisions referenced by ASOP No. 4.

  After several meetings with ACERA and its auditors, as well as with administrative staff, auditors, and consultants representing the County of Alameda, and after twice consulting with the GASB staff, it was determined that future allocations to the SRBR should be treated as an additional "outflow" (i.e., assets not available to fund the benefits included in the determination of the TPL) against the plan's fiduciary net position in the GASB crossover test[2] (see Exhibit 5). In order to quantify that outflow, we performed a stochastic model to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have the same impact as an outflow that would average approximately 0.75% of assets over time. This approximated outflow was incorporated into our GASB crossover test, along with the additional future employer contributions that would result from those future allocations of excess earnings to the SRBR under ACERA's funding policy.
- The NPLs measured as of December 31, 2014 and 2013 have been determined by rolling forward the TPLs as of December 31, 2013 and December 31, 2012, respectively. In addition, we have adjusted both the TPL and the Plan Fiduciary Net Position to include $32.6 million and $26.9 million as of December 31, 2014 and December 31, 2013, respectively, that were set aside by the Retirement Board in the SRBR reserve to pay non-vested Supplemental COLA and

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[1] *For example, 50% of the deferred market gains is equal to $121.4 million as of December 31, 2014.*

[2] *The purpose of the GASB crossover test is to determine if the full expected return (or 7.60% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the plan's fiduciary net position, then the full expected return assumption can be used. As detailed later in this report, ACERA does pass the crossover test, which means that the full 7.60% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.*

retired member death benefits.[3] These amounts have been increased to $37.6 million and $41.4 million, respectively, by taking those actual balances in the non-OPEB component of the SRBR reserve account and increasing those balances by 50% of the deferred market gains as of December 31, 2014 and December 31, 2013, reduced on a proportional basis relative to the total actual balances in the non-OPEB and OPEB components of the SRBR reserve account.

- The NPL increased from $1,282 million as of December 31, 2013 to $1,741 million as of December 31, 2014 primarily as a result of (i) the change in actuarial assumptions effective with the December 31, 2014 valuation, and (ii) the unfavorable investment results during calendar year 2014, offset somewhat by (iii) the gains from lower than expected active salary increases during 2013 (because liabilities are rolled forward from December 31, 2013 to December 31, 2014, these gains are first reported in the December 31, 2014 results). Changes in these values during the last two fiscal years ending December 31, 2013 and December 31, 2014 can be found in Exhibit 3.
- The discount rate originally used to determine the TPL and NPL as of December 31, 2014 and 2013 was 7.80%, based on the assumption that was used by the Association in the pension funding valuations as of December 31, 2013 and December 31, 2012. However, as the Retirement Board had approved a new discount rate of 7.60% (together with other new actuarial assumptions) for use in the pension funding valuation as of December 31, 2014, we have estimated the impact of this assumption change by (1) revaluing the TPL as of December 31, 2013 (before the roll forward) using the new actuarial assumptions and (2) using this revalued TPL in rolling forward the results from December 31, 2013 to December 31, 2014. The detailed calculations of the discount rate of 7.60% used in the calculation of the TPL and NPL as of December 31, 2014 can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.

[3] *We have excluded the liability and the assets associated with the OPEB component of the SRBR reserve account because it is our understanding that those amounts are reportable under GASB 43/45.*

Summary of Key Valuation Results

	2014	2013
Disclosure elements for plan year ending December 31:		
Service cost[1]	$167,119,699	$166,639,091
Total pension liability	7,653,068,752	6,975,776,650
Plan fiduciary net position	5,912,426,212	5,693,756,107
Net pension liability	1,740,642,540	1,282,020,543
Schedule of contributions for plan year ending December 31:		
Actuarially determined contributions	$213,254,775	$191,180,146
Actual contributions	213,254,775	191,180,146
Contribution deficiency (excess)	0	0
Demographic data for plan year ending December 31:		
Number of retired members and beneficiaries	8,813	8,566
Number of vested terminated members[2]	1,995	1,902
Number of active members	11,025	10,877
Key assumptions as of December 31:		
Investment rate of return	7.60%	7.80%
Inflation rate	3.25%	3.50%
Projected salary increases[3]	General: 4.15% to 7.45% and Safety: 4.45% to 10.45%	General: 4.60% to 7.20% and Safety: 4.70% to 10.20%

[1] *Service cost is always based on the previous year's assumptions, meaning the 2014 service cost and 2013 service cost are based on those assumptions shown as of December 31, 2013.*

[2] *Includes members who left their contributions on deposit even though they have less than five years of service.*

[3] *Includes inflation at 3.25% and 3.50% as of December 31, 2014 and December 31, 2013, respectively, plus real across-the-board salary increases of 0.50% plus merit and longevity increases.*

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Cost-Sharing Pension Plan

Plan Description

Plan administration. The Alameda County Employees' Retirement Association (ACERA) was established by the Alameda County Board of Supervisors in 1947. ACERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.). ACERA is a cost-sharing, multiple employer, defined benefit, public employee retirement system whose main function is to provide service retirement, disability, death, and survivor benefits to the General and Safety members employed by the County of Alameda. ACERA also provides retirement benefits to the employee members of First 5 Alameda County, Housing Authority of the County of Alameda, Alameda Health System, Livermore Area Recreation and Park District (LARPD), Superior Court of California—County of Alameda, and Alameda County Office of Education.

The management of ACERA is vested with the ACERA Board of Retirement. The Board consists of nine members and two alternates. The County Treasurer is a member of the Board of Retirement by law and is elected by the general public. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two active members are elected by the General members; one active member and one alternate are elected by the Safety members; one retired member and one alternate are elected by the retired members. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

Plan membership. At December 31, 2014, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	8,813
Vested terminated members entitled to, but not yet receiving benefits[1]	1,995
Active members	11,025
Total	21,833

[1] *Includes terminated members due a refund of member contributions.*

Benefits provided. ACERA provides service retirement, disability, death, and survivor benefits to eligible employees. The first date of ACERA membership varies by employer, as follows:

- Alameda County, Alameda Health System and Alameda Superior Court Employees: Membership for these employees is effective on the first day of the second pay period following the employee's hire date in an ACERA-covered position. This is the date of entry into ACERA membership. As of the date of entry, payroll deductions for retirement contributions begin and service credit for each hour worked is earned. During the short period between the beginning of employment and the ACERA plan date of entry, the employee does not pay contributions or earn service credit. A member may purchase this service credit (referred to as "days prior to entry") any time before retirement without changing the membership, but date of entry does not change.
- Housing Authority and Livermore Area Recreation and Park District Employees: Membership for these employees is effective on the first day of employee's hire in an ACERA covered position. The first date of employment is the date of entry into ACERA membership. As of this date of entry, payroll deductions for retirement contributions begin and service credit for each hour work is earned.
- First 5 Employees: Membership for these employees is effective on the first day of the second pay period following the employee's hire date.
- Office of Education Employees: This is a closed plan with one employee (i.e., there is no new ACERA membership). Membership for this employee is the first day of the second month following employee's hire date.

There are separate retirement benefits for General and Safety members. Safety membership is extended to those involved in active law enforcement, deferred firefighters, or positions that have been designated as Safety by the Board of Retirement (e.g. Juvenile Hall Group Counselor, Probation Officer, etc.). All other employees are classified as General members.

Any new member who becomes a member on or after January 1, 2013 is placed into Tier 4 and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. and Assembly Bill (AB) 197.

General members enrolled in Tiers 1, 2, or 3 are eligible to retire once they attain the age of 70 regardless of service or at age 50 with five or more years of retirement service credit and a total of 10 years of qualifying membership. A non-Tier 4 General member with 30 years of service is eligible to retire regardless of age. General members enrolled in Tier 4 are eligible to retire once they have attained the age of 52 and have acquired five years of retirement service credit, or at age 70 regardless of service.

Safety members enrolled in Tiers 1, 2, 2C, or 2D are eligible to retire once they attain the age of 70 regardless of service or at age 50 with five or more years of retirement service credit and a total of 10 years of qualifying membership. A non-Tier 4 Safety member with 20 years of service is eligible to retire regardless of age. Safety members enrolled in Tier 4 are eligible to retire once they have attained the age of 50 and have acquired five years of retirement service credit, or at age 70 regardless of service.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

The tiers and their basic provisions are listed below:

Tier Name	Service Retirement Governing Code Section	Effective Date	Basic Provisions	Final Average Salary Period	Plan Sponsors
General Tier 1	§31676.12	Various	2.0% at 57; maximum 3% COLA	Highest 1-year	All
General Tier 2	§31676.1	June 30, 1983*	2.0% at 61; maximum 2% COLA	Highest 3-years	All except LARPD
General Tier 3	§31676.18	October 1, 2008	2.5% at 55; maximum 3% COLA	Highest 1-year	LARPD
General Tier 4	§7522.20(a)	January 1, 2013	2.5% at 67; maximum 2% COLA	Highest 3-years	All
Safety Tier 1	§31664.1	Various	3.0% at 50; maximum 3% COLA	Highest 1-year	County
Safety Tier 2	§31664.1	June 30, 1983	3.0% at 50; maximum 2% COLA	Highest 3-years	County
Safety Tier 2C	§31664	October 17, 2010	2.6% at 55; maximum 2% COLA	Highest 3-years	County
Safety Tier 2D	§31664.2	October 17, 2010	3.0% at 55; maximum 2% COLA	Highest 3-years	County
Safety Tier 4	§7522.25(d)	January 1, 2013	2.7% at 57; maximum 2% COLA	Highest 3-years	County

** For Housing Authority members, the effective date is September 30, 2011.*

For members enrolled in Tiers 1, 2, 2C, 2D, or 3, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members enrolled in Tier 4.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

ACERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the San Francisco-Oakland-San Jose Area (with 1982-84 as the base period), is capped at 3.0% for General Tiers 1 and 3 and Safety Tier 1, and at 2.0% for General Tiers 2 and 4 and Safety Tiers 2, 2C, 2D, and 4.

The County of Alameda and the other participating agencies contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from ACERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of December 31, 2014 for 2014 (based on the December 31, 2012 and December 31, 2013 valuations for the second half of 2013/2014 and the first half of 2014/2015, respectively) was 24.04% of compensation.

Members are required to make contributions to ACERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of December 31, 2014 for 2014 (based on the December 31, 2012 and December 31, 2013 valuations for the second half of 2013/2014 and the first half of 2014/2015, respectively) was 8.99% of compensation.

EXHIBIT 2

Net Pension Liability

The components of the net pension liability are as follows:

	December 31, 2014	December 31, 2013
Total pension liability	$7,653,068,752	$6,975,776,650
Plan fiduciary net position	5,912,426,212	5,693,756,107
Net pension liability	$1,740,642,540	$1,282,020,543
Plan fiduciary net position as a percentage of the total pension liability	77.26%	81.62%

The net pension liability was measured as of December 31, 2014 and 2013. Plan fiduciary net position (plan assets) was valued as of the measurement date while the total pension liability was determined based upon rolling forward the total pension liability from actuarial valuations as of December 31, 2013 and 2012, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in ACERA's actuarial valuation as of December 31, 2013.

Actuarial assumptions. The total pension liabilities as of December 31, 2014 and December 31, 2013 were determined by actuarial valuations as of December 31, 2013 and December 31, 2012, respectively. The actuarial assumptions used to develop the December 31, 2013 TPL are the same assumptions used in the December 31, 2012 and 2013 funding valuations for ACERA, while the actuarial assumptions used to develop the December 31, 2014 TPL are based on the new assumptions adopted by the Retirement Board for use in the December 31, 2014 funding valuation. These assumptions are outlined on page 10 of this report. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

	December 31, 2014	December 31, 2013
Inflation	3.25%	3.50%
Salary increases	General: 4.15% to 7.45% and Safety: 4.45% to 10.45%, vary by service, including inflation	General: 4.60% to 7.20% and Safety: 4.70% to 10.20%, vary by service, including inflation
Investment rate of return	7.60%, net of pension plan investment expense, including inflation	7.80%, net of pension plan investment expense, including inflation
Other assumptions	See analysis of actuarial experience during the period December 1, 2010 through November 30, 2013	See December 31, 2013 Actuarial Valuation

The long-term expected rate of return on pension plan investments for funding valuation purposes was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. This information is combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Large Cap Equity	25.60%	5.91%
Domestic Small Cap Equity	6.40%	6.47%
Developed International Equity	20.25%	6.88%
Emerging Market Equity	6.75%	8.24%
U.S. Core Fixed Income	11.25%	0.73%
High Yield Bonds	1.50%	2.67%
International Bonds	2.25%	0.42%
Real Estate	6.00%	4.95%
Commodities	2.00%	4.25%
Absolute Return (Hedge Fund)	7.50%	3.17%
Real Return	3.00%	0.70%
Private Equity	7.50%	11.94%
Total	100.00%	

Discount rate: The discount rate used to measure the total pension liability was 7.60% as of December 31, 2014 and 7.80% as of December 31, 2013. Our understanding is that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return assumption for funding than is used for interest crediting. In order to reflect the provisions of Article 5.5, we have treated future allocations to the SRBR as an additional outflow against the plan's fiduciary net position in the GASB crossover test, as mentioned earlier in Section 1. We understand this to be the GASB's preferred method in reflecting gain sharing plan provisions, such as those allowed by

Article 5.5. We have estimated that the additional outflow would average approximately 0.75% of assets over time, based on the results of our stochastic modeling of the 50% allocation of future excess earnings to the SRBR.

The projection of cash flows used to determine the discount rate assumes plan member contributions will be made at the current member contribution rates, and that employer contributions will be made at rates equal to the actuarially determined contribution rates[4] plus additional future contributions that would follow from the future allocation of excess earnings to the SRBR. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of both December 31, 2014 and December 31, 2013.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability as of December 31, 2014, calculated using the discount rate of 7.60%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.60%) or 1-percentage-point higher (8.60%) than the current rate:

	1% Decrease (6.60%)	Current Discount Rate (7.60%)	1% Increase (8.60%)
Net pension liability as of December 31, 2014	$2,681,631,505	$1,740,642,540	$956,345,998

[4] *For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included.*

EXHIBIT 3

Schedule of Changes in Net Pension Liability – Last Two Fiscal Years

	2014	2013
Total pension liability		
Service cost	$167,119,699	$166,639,091
Interest	542,377,025	522,202,626
Change of benefit terms	0	0
Differences between expected and actual experience	-85,378,608	-61,362,485
Changes of assumptions	431,863,478	0
Benefit payments, including refunds of employee contributions	-378,689,492	-359,937,910
Net change in total pension liability	$677,292,102	$267,541,322
Total pension liability – beginning	6,975,776,650	6,708,235,328
Total pension liability – ending (a)	$7,653,068,752	$6,975,776,650
Plan fiduciary net position		
Contributions – employer	$213,254,775	$191,180,146
Contributions – employee	79,714,187	76,230,024
Net investment income	318,245,465	736,913,880[(1)]
Benefit payments, including refunds of employee contributions	-378,689,492	-359,937,910
Administrative expense	-13,854,830	-13,633,980
Other	0	0
Net change in plan fiduciary net position	$218,670,105	$630,752,160
Plan fiduciary net position[(2)] – beginning	5,693,756,107	5,063,003,947
Plan fiduciary net position[(2)] – ending (b)	$5,912,426,212	$5,693,756,107
Net pension liability – ending (a) – (b)	$1,740,642,540	$1,282,020,543
Plan fiduciary net position as a percentage of the total pension liability	77.26%	81.62%
Covered employee payroll[(3)]	$886,924,862	$853,349,657
Plan net pension liability as percentage of covered employee payroll	196.26%	150.23%

[(1)] *Approximately $37.9 million due to ACERA's reclassification of SRBR assets from non-OPEB to OPEB, as of December 31, 2012.*

[(2)] *Market value of assets, less OPEB-related SRBR assets (OPEB-related SRBR assets include 50% of the deferred market gains at the end of the year, reduced on a proportional basis relative to the total actual balances in the OPEB and non-OPEB components of the SRBR reserve account).*

[(3)] *Covered employee payroll shown represents Compensation Earnable and Pensionable Compensation. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.*

Notes to Schedule:

Benefit changes: All members with membership dates on or after January 1, 2013 enter Tier 4, created by the California Public Employees' Pension Reform Act of 2013 (PEPRA).

EXHIBIT 4

Schedule of Contributions – Last Ten Fiscal Years

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Employee Payroll[1]	Contributions as a Percentage of Covered Employee Payroll
2005	$100,801,162	$100,801,162	$0	$670,000,269	15.04%
2006	127,095,644	127,095,644	0	708,162,267	17.95%
2007	130,039,582	130,039,582	0	757,852,846	17.16%
2008	129,660,363	129,660,363	0	810,712,790	15.99%
2009	132,198,602	132,198,602	0	838,141,323	15.77%
2010	147,543,301	147,543,301	0	839,617,361	17.57%
2011	162,879,221	162,879,221	0	837,482,162	19.45%
2012	179,648,812	179,648,812	0	845,932,592	21.24%
2013	191,180,146	191,180,146	0	853,349,657	22.40%
2014	213,254,775	213,254,775	0	886,924,862	24.04%

[1] *Covered employee payroll shown represents Compensation Earnable and Pensionable Compensation. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.*

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" rates:	
Valuation date	Actuarially determined contribution rates for the first six months of calendar year 2014 (or the second half of fiscal year 2013-2014) are calculated based on the December 31, 2012 valuation. Actuarially determined contribution rates for the last six months of calendar year 2014 (or the first half of fiscal year 2014-2015) are calculated based on the December 31, 2013 valuation.
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll (3.75% payroll growth assumed)
Remaining amortization period	
December 31, 2012 valuation	Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 20 years remaining as of December 31, 2012). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods.
December 31, 2013 valuation	Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 19 years remaining as of December 31, 2013). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods.
Asset valuation method	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 40% of the market value of assets. The valuation value of assets is the actuarial value of assets reduced by the value of the non-valuation reserves.

Notes to Exhibit 4 - continued

Actuarial assumptions:	**December 31, 2012 Valuation**	**December 31, 2013 Valuation**
Investment rate of return	7.80%, net of pension plan investment expense, including inflation	7.80%, net of pension plan investment expense, including inflation
Inflation rate	3.50%	3.50%
Real across-the-board salary increases	0.50%	0.50%
Projected salary increases	General: 4.60% to 7.20% and Safety: 4.70% to 10.20%, vary by service, including inflation	General: 4.60% to 7.20% and Safety: 4.70% to 10.20%, vary by service, including inflation
Cost of living adjustments	3.00% of retirement income for General Tiers 1 and 3, and Safety Tier 1; 2.00% for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4	3.00% of retirement income for General Tiers 1 and 3, and Safety Tier 1; 2.00% for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4
Other assumptions	Same as those used in the December 31, 2012 funding actuarial valuation	Same as those used in the December 31, 2013 funding actuarial valuation
Other information:	All members with membership dates on or after January 1, 2013 enter Tier 4, created by the California Public Employees' Pension Reform Act of 2013 (PEPRA).	

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of December 31, 2014

($ in millions)

Year Beginning January 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2014	$5,694	$293	$379	$14	$318	$5,912 *
2015	5,912	304	464	14	443	6,181
2016	6,181	307	488	15	462	6,447
2017	6,447	309	514	16	482	6,708
2018	6,708	311	540	16	501	6,963
2019	6,963	317	566	17	519	7,216
2020	7,216	325	594	18	538	7,467
2021	7,467	331	622	18	556	7,713
2022	7,713	338	651	19	574	7,955
2023	7,955	345	681	19	591	8,191
2024	8,191	353	710	20	608	8,421
2032	9,976	449	934	24	739	10,206
2033	10,206	206	959	25	746	10,174
2034	10,174	226	980	25	744	10,139
2050	7,349	205 **	965	18	529	7,100
2051	7,100	203 **	943	17	511	6,853
2052	6,853	200 **	917	17	493	6,612
2079	7,414	111 **	153	18	561	7,916
2080	7,916	112 **	142	19	600	8,467
2081	8,467	115 **	132	21	642	9,071
2101	36,131	359 **	272	88	2,746	38,877
2102	38,877	387 **	292	95	2,955	41,832
2103	41,832	416 **	314	102	3,179	45,011
2117	116,645	1,159 **	875	284	8,865	125,510
2118	125,510					
2118	Discounted Value: 66 ***					

* Net of transfer of OPEB portion of excess earnings to the Supplemental Retiree Benefit Reserve.

** Mainly attributable to employer contributions to fund each year's annual administrative expenses as well as future allocations of excess earnings to the SRBR under ACERA's funding policy.

*** $125,510 million when discounted with interest at the rate of 7.60% per annum has a value of $66 million (or 1.12% of the plan's Fiduciary Net Postion) as of December 31, 2014.

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of December 31, 2014

($ in millions) - continued

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown in the year beginning January 1, 2014 row are actual amounts, based on the financial statements provided by ACERA.

(3) Years 2025-2031, 2035-2049, 2053-2078, 2082-2100, and 2104-2116 have been omitted from this table.

(4) Column (a): Except for the "discounted value" shown for 2118, all of the projected beginning plan fiduciary net position amounts shown have not been adjusted for the time value of money.

(5) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of November 30, 2013); plus employer contributions to the unfunded actuarial accrued liability; plus employer contributions to fund each year's annual administrative expenses as well as future allocations of excess earnings to the SRBR under ACERA's funding policy, both reflecting a 20-year amortization schedule. Contributions are assumed to occur halfway through the year, on average.

(6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of November 30, 2013. The projected benefit payments reflect the cost of living increase assumption of 3.00% per annum for Tiers 1 and 3, and 2.00% per annum for Tiers 2 and 4. In addition, an amount equal to 0.75% of the beginning-of-year market value has been included to reflect the approximated outflow of future allocations to the SRBR. (This outflow has an estimated present value of $0.82 billion.) Benefit payments are assumed to occur halfway through the year, on average. In accordance with paragraph 31.b.(1)(e) of GASB Statement No. 67, the long-term expected rate of return on Plan investments of 7.60% per annum was applied to all periods of projected benefit payments to determine the discount rate.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.24% of the beginning plan fiduciary net position amount. The 0.24% portion was based on the actual fiscal year 2014 administrative expenses as a percentage of the beginning plan fiduciary net position amount as of January 1, 2014. Administrative expenses are assumed to occur halfway through the year, on average.

(8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.60% per annum.

(9) As illustrated in this Exhibit, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.60% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of December 31, 2014 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.