Nevada Irrigation District

Staff Report

for the Regular Meeting of the Board of Directors September 14, 2016

TO: Board of Directors

FROM: Marvin Davis, MBA, CPA, Finance Manager/Treasurer

DATE: September 7, 2016

SUBJECT: Public Unfunded Liability Questions

FINANCE

RECOMMENDATION:

Hear responses and review analysis addressing the public questions regarding the District's Unfunded Liabilities

BACKGROUND:

Pension Liability

Recording of the District's Net Pension Liability (NPL) of $37M as reflected on the Comprehensive Annual Financial Report (CAFR) is in accordance with Governmental Accounting Standards Board (GASB) 68 and 71 (Attachment A page 38). In addition, to the mandated disclosures provided in Note 7 (Attachment A page 34), these statements require recording of this unfunded liability in District accounts. Staff provides the following response to the public concerns and welcomes additional inquiries.

1) Is the District adequately funding this liability while being cognizant of its size? The attached schedule taken from the most recent June 30, 2015 CALPERS Actuarial valuation indicates historical employer contributions and funding history (Attachment B page 19). The unfunded lability fluctuates from 2010 to 2015 resulting from various assumptions (Attachment A page 47). The increase in unfunded rate from 13% to 21% reflects CALPERS attempt to have employers fund this liability sooner than in Fiscal Years 2012-13. However, this increase appears inconsistent with the 5-Year geometric returns (Attachment B page 11).

CALPERS switched its' approach to recovering against this liability beginning Fiscal Year 2017-18 from a percentage amount to a level payment amount.

Theoretically, as the unfunded liability percentage increases, one would expect a definite amortization schedule to bring this liability to zero. The amortization schedule (Attachment B page 17) indicates the 2017-18 payment applicable to the unfunded liability is $2.7M and can increase to $4.1M by 6/30/2024.

Staff does not recommend additional funding toward a 20-year or 15-year amortization period based on the most recent size of the District's plan assets ($76.5M) and uncertainty of the continuous contributions toward the unfunded liability.

2) What is the District doing to reduce and eliminate this liability? CALPERS has structured the unfunded liability portion of the employer's contribution (currently 21.26%) to eliminate this liability over a 30-Year amortization period. The projected remaining balance on the unfunded liability in future years is located on page 17 of the actuarial report under the column labeled "Current Amortization Schedule". This schedule represents expected balances, given realized actuarial assumptions. The District's contributions are at least equal to the payment schedule and meet the required minimum to achieve the 30-Year liability elimination.

3) How long will it take to eliminate this liability? The liability will only be eliminated when the market value of assets ($76.5M) equal or exceed the accrued liability ($116.4M) (Attachment B page 13). However, if retiree draws reduce the current value of assets ($76.5M) to an unacceptable level, larger annual contributions is a consideration. The liability's assumptions (Attachment A page 47) are extensive and based on a 30-year amortization period to retire.

Other Post Employment Benefits (OPEB)

The District's OPEB change is a positive $539K (Asset) as reported on the Comprehensive Annual Financial Report (CAFR) (Attachment A page 40). This reporting standard is in accordance with Governmental Accounting Standards Board (GASB) 45. Beginning with fiscal year ending December 31, 2018 GASB 75 changes this reporting standard.

Under current GASB accounting standards, employers are required to report the ***change*** to the Net OPEB obligation for the current reporting period. The new accounting standard will require employers to report their Net OPEB liability on the balance sheet. The current Unfunded Actuarial Accrued Liability (UAAL) reported December 31, 2015 is $15.7M (Attachment A page 41). This estimate is different from the auditor's estimate presented in July of $16M. The District is currently in the process of obtaining the updated actuarial valuation from Bartel Associates, LLC as of June 30, 2015. Again, staff provides the following response to the public concerns and welcomes additional inquiries.

1) Is the District adequately funding this liability while being cognizant of its size? The 2015 CAFR estimates are from the June 30, 2013 valuation report according to GASB reporting timeframe. The CALPERS annual update estimates the UAAL at $13.4M (25.9M – 12.5M Assets) (Attachment C page 7). Staff believes the District is funding this liability adequately in light of our District's existing rate study and prudent funding practices.

2) What is the District doing to reduce and eliminate this liability? The District contributes 100% of the total Annual Required Contribution (Premiums & Irrevocable Trust Payment). (See Attachment C page 5 for historical contributions).

3) How long will it take to eliminate this liability? The preliminary June 30, 2015 valuation report from Bartel Associates, LLC estimates 11 amortization years to eliminate this liability.

BUDGETARY IMPACT: N/A

Attachments:

- Attachment A: Comprehensive Annual Financial Report (Select Pages)
- Attachment B: CALPERS Actuarial Valuation - Pension (Select Pages)
- Attachment C: California Employer's Retiree Benefit Trust (Select Pages)

NOTE 6 – NET POSITION (Continued)

The District's unrestricted net position consists of the following at December 31, 2015:

	Water	Electric	Recreation
DESIGNATED:			
Comprehensive insurance reserve	$ 7,518,750		
Accrued Leave	2,182,317	$ 266,996	
Operating reserve		5,909,737	
Water rate stabilization reserve	2,005,000		
Raw water system expansion reserve	2,005,000		
Watershed stewardship reserve	2,145,749		
Capital improvement reserve	5,012,500	10,000,000	
Hydroelectric relicensing	259,962		
TOTAL DESIGNATED	21,129,278	16,176,733	-
UNDESIGNATED	(5,243,970)	6,021,540	$ (1,082,345)
TOTAL UNRESTRICTED NET POSITION	$ 15,885,308	$ 22,198,273	$ (1,082,345)

NOTE 7 – PENSION PLANS

Plan Description: All qualified permanent and probationary employees are eligible to participate in the District's Miscellaneous Plan, an agent multiple-employer defined benefit pension plan administered by the California Public Employees' Retirement System (CalPERS) which acts as a common investment and administrative agent for its participating member employers. Benefit provisions under the Plan are established by State statute and District resolution. CalPERS issues a publicly available report that includes a full description of the pension plan regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

Benefits Provided: CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after five years of service. The death benefit is the Basic Death Benefit. One agent plan is used for all three of the District's rate plans. The cost of living adjustments for each plan are applied as specified by the Public Employees' Retirement Law.

NOTE 7 – PENSION PLANS (Continued)

The Plans' provisions and benefits in effect for the year ended December 31, 2015 is summarized as follows for each rate plan:

Hire date	Miscellaneous Plan (Prior to May 1, 2010)	Miscellaneous Plan (After May 1, Prior to January 1, 2013)	Miscellaneous Plan (On or after January 1, 2013)
Benefit formula (at full retirement)	2.5% @ 55	2.0% @ 55	2.0% @ 62
Benefit vesting schedule	5 years service	5 years service	5 years service
Benefit payments	monthly for life	monthly for life	monthly for life
Retirement age	50 - 63	50 - 63	52 - 67
Monthly benefits, as a % of eligible compensation	2.0% to 2.5%	1.426% to 2.418%	1.0% to 2.5%
Required employee contribution rates:			
January 1 to June 30	8.000%	7.000%	6.750%
July 1 to December 31	8.000%	7.000%	6.750%
Required employer contribution rates:			
January 1 to June 30	26.499%	26.499%	26.499%
July 1 to December 31	27.907%	27.907%	27.907%

The Public Employees' Pension Reform Act of 2013 (PEPRA) requires the 2.0% at 62 benefit to be used by any new participants that were not members of CalPERS on January 1, 2013.

Employees Covered: At the June 30, 2015 (the most recent date available) the following employees were covered by the benefit terms for the Plan:

Inactive employees or beneficiares currently receiving benefits	212
Inactive employees entitled to but not yet receiving benefits	49
Active employees	167
Total	428

Contributions: Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plans are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The District is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

NOTE 7 – PENSION PLANS (Continued)

Net Pension Liability: The District's net pension liability for the Plan is measured as the total pension liability, less the plan's fiduciary net position. The net pension liability of the Plan is measured as of June 30, 2015, using an annual actuarial valuation as of June 30, 2014 rolled forward to June 30, 2015. A summary of principal assumptions and methods used to determine the net pension liability is shown below.

Actuarial Assumptions: The total pension liability at the June 30, 2015 measurement dates was determined using the following actuarial assumptions:

Valuation Date	June 30, 2014
Measurement Date	June 30, 2015
Actuarial Cost Method	Entry-Age Normal Cost Method
Actuarial Assumptions:	
Discount Rate	7.65%
Inflation	2.75%
Payroll Growth	3.00%
Projected Salary Increase	3.3% - 14.20% (1)
Investment Rate of Return	7.65% (2)
Mortality - pre-retirement	0.020% to 0.99%

(1) Depending on entry age and service

(2) Net of pension plan investment expenses, including inflation

The underlying mortality assumptions and all other actuarial assumptions used in the June 30, 2015 valuation was based on the results of a January 2014 actuarial experience study for the period 1997 to 2011. Further details of the Experience Study can be found on the CalPERS website.

Discount Rate: The discount rate used to measure the total pension liability was 7.65% in the June 30, 2015 valuation for each Plan. To determine whether the municipal bond rate should be used in the calculation of a discount rate for each plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. Based on the testing, none of the tested plans run out of assets. Therefore, the current discount rate is adequate and the use of the municipal bond rate calculation is not necessary. The long term expected discount rate will be applied to all plans in the Public Employees Retirement Fund (PERF). The stress test results are presented in a detailed report that can be obtained from the CalPERS website.

According to Paragraph 30 of Statement 68, the long-term discount rate should be determined without reduction for pension plan administrative expense. The 7.65 investment return assumption used at the June 30, 2015 measurement date was corrected to no longer be reduced for administrative expenses.

CalPERS is scheduled to review all actuarial assumptions as part of its regular Asset Liability Management (ALM) review cycle that is scheduled to be completed in February 2018. Any changes to the discount rate will require Board action and proper stakeholder outreach.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

NOTE 7 – PENSION PLANS (Continued)

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all the funds' asset classes, expected compound returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects the long-term expected real rate of return by asset class for the Plan as of the measurement dates of June 30. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These rates of return are net of administrative expenses.

Asset Class	New Strategic Allocation	Real Return Years 1 - 10(a)	Real Return Years 11+(b)
Global Equity	47.0%	5.25%	5.71%
Global Fixed Income	19.0%	0.99%	2.43%
Inflation Sensitive	6.0%	0.45%	3.36%
Private Equity	12.0%	6.83%	6.95%
Real Estate	11.0%	4.50%	5.13%
Infrastructure and Forestland	3.0%	4.50%	5.09%
Liquidity	2.0%	(0.55)%	(1.05)%
Total	100.0%		

(a) An expected inflation of 2.5% used for this period.
(b) An expected inflation of 3.0% used for this period.

NOTE 7 – PENSION PLANS (Continued)

Changes in the Net Pension Liability: The changes in Net Pension Liability for the Plan for the year ended December 31, 2015 are as follows:

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability/(Asset)
Balance at June 30, 2014	$ 111,177,303	$ 77,661,352	$ 33,515,951
Changes in the year:			
Service cost	1,691,635		1,691,635
Interest on the total pension liability	8,255,944		8,255,944
Changes in assumptions	(1,922,782)		(1,922,782)
Differences between actual and expected experience	1,142,319		1,142,319
Plan to plan resource movement			
Changes in benefit terms			
Contribution - employer		3,098,851	(3,098,851)
Contribution - employee		921,705	(921,705)
Net investment income		1,695,016	(1,695,016)
Benefit payments, including refunds of employee contributions	(6,643,641)	(6,643,641)	-
Administrative expenses		(86,331)	86,331
Net changes during 2014-15	2,523,475	(1,014,400)	3,537,875
Balance at June 30, 2015	$ 113,700,778	$ 76,646,952	$ 37,053,826

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following presents the net pension liability of the District for the Plan, calculated using the discount rate for the Plan, as well as what the District's net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	Miscellaneous Plan
1% Decrease	6.65%
Net Pension Liability	$ 51,406,133
Current Discount Rate	7.65%
Net Pension Liability	$ 37,053,826
1% Increase	8.65%
Net Pension Liability	$ 25,180,271

Pension Plan Fiduciary Net Position: Detailed information about the Plan's fiduciary net position is available in the separately issued CalPERS financial reports.

NOTE 7 – PENSION PLANS (Continued)

Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions: For the year ended December 31, 2015, the District recognized pension expense of $3,434,463. At December 31, 2015 the District reported deferred outflows of resources and deferred inflows of resources related to the Plan from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension contributions subsequent to measurement date	$ 1,719,744	
Differences between actual and expected experience	863,705	
Changes in assumptions		$ (1,453,811)
Net differences between projected and actual earnings on plan investments	3,294,247	(4,094,452)
Total	$ 5,877,696	$ (5,548,263)

The $1,719,744 reported as deferred outflows of resources related to contributions subsequent to the measurement date of June 30, 2015 will be recognized as a reduction of the net pension liability in the year ended December 31, 2016. Other amounts reported as net deferred inflows of resources related to pensions will be recognized as pension expense as follows as of December 31, 2015:

Year Ended December 31	
2016	$ (731,613)
2017	(731,613)
2018	(731,613)
2019	804,528
	$ (1,390,311)

Payable to the Pension Plan: At December 31, 2015, the District reported payables of $116,774 for the outstanding amount of required contributions to the Plan.

NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS PLAN

Plan Description: The District's other postemployment benefits (OPEB) healthcare plan (the Plan) provides medical benefits to employees that directly retire from the District and their eligible dependents, subject to a monthly limitation pursuant to Government Code Section 22892, as amended by AB 2544. Eligibility rules include retirement from the District at age 50 or later with five years of service. The District's Board of Directors has the authority to establish and amend benefit provisions. The District participates in the California Employers Retirees Benefit Trust (CERBT), an irrevocable trust established to fund OPEB. CERBT is administrated by CalPERS, and is managed by an appointed board not under the control of the District's Board of Directors. This Trust is not considered a component unit by the District and has been excluded from these financial statements. Separately issued financial statements for CERBT may be obtained from CalPERS at P.O. Box 942709, Sacramento, CA 94229-2709.

Funding Policy: The contribution requirements of plan members and the District are established and may be amended by the Board of Directors. The benefits are fully funded by the District. The required contribution is based on projected pay-as-you-go financing requirements. For the year ended December 31, 2015, the District contributed approximately $2,108,000 to the Plan, which represents current premiums and $1,000,000 of pre-funding. Plan members did not make any contributions to the Plan.

Annual OPEB Cost and Net OPEB Obligation: The District's annual OPEB cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years. The following table shows the components of the District's annual OPEB cost for 2015, the amount actually contributed to the Plan, and changes in the District's net OPEB asset.

Annual Required Contribution (ARC)	$ 2,245,000
Interest on Net OPEB Obligation	(65,000)
Adjustment to Annual Required Contribution	91,000
Annual OPEB Cost (Expense)	2,271,000
Contributions Made	(2,108,000)
Increase in OPEB Asset	163,000
Net OPEB (Asset) Liability - Beginning of Year	(702,000)
Net OPEB (Asset) - End of Year	$ (539,000)

This net OPEB asset is reported by fund as follows:

Water	$ 646,000
Electric	(1,185,000)
Net OPEB (asset)	$ (539,000)

NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS PLAN (Continued)

The District's annual OPEB cost, the percentage of annual OPEB cost contributed to the Plan and the net OPEB obligation for the three most recent fiscal years are as follows:

Fiscal Year Ending	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Liability (Asset)
December 31, 2013	$ 2,162,000	55.09%	$ 39,000
December 31, 2014	2,232,000	133.20%	(702,000)
December 31, 2015	2,271,000	92.82%	(539,000)

Funded Status and Funding Progress: The funded status of the Plan as of June 30 2013, the Plan's most recent actuarial valuation date, was as follows:

Actuarial Accrued Liability (AAL)	$ 23,637,000
Actuarial Value of Plan Assets	7,904,000
Unfunded Actuarial Accrued Liability (UAAL)	$ 15,733,000
Funded Ratio (Actuarial Value of Plan Assets/AAL)	33.44%
Covered Payroll (Active Plan Participants)	$ 9,980,000
UAAL as a Percentage of Covered Payroll	157.65%

Actuarial valuations of an ongoing plan involve estimates of the value of expected benefit payments and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trends. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information, presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Methods and Assumptions: Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the type of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the June 30, 2013 actuarial valuation, the entry age normal cost method was used. The actuarial valuation used the rates of mortality, disability and other withdrawals used by CalPERS in the valuation of the District's pension plan. The actuarial assumptions included a 7.25% investment rate of return, a 3.0% rate of inflation, an 8.0% healthcare premium increase in 2015 trending down to 5.0% in 2021, and a 3.25% increase in payroll. The UAAL is being amortized as a level percent of pay over a closed 18 year period. The remaining amortization period at December 31, 2015 was 12 years.

NEVADA IRRIGATION DISTRICT

REQUIRED SUPPLEMENTARY INFORMATION

December 31, 2015
Last 10 Years

SCHEDULE OF CONTRIBUTIONS - PENSION PLAN (Unaudited)

	2015	2014
Contractually Required Contribution (Actuarially Determined)	$ 3,098,851	$ 2,449,665
Contributions in Relation to the Actuarially Determined Contributions	(3,098,851)	(2,449,665)
Contribution Deficiency (Excess)	$ -	$ -
Covered - Employee Payroll	$ 10,522,081	$ 10,387,326
Contributions as a Percentage of Covered - Employee Payroll	29.45%	23.58%

Notes to Schedule:
Valuation Date: June 30, 2014 (for 2015) and June 30, 2013 (for 2014).
Measurement Date: June 30, 2015 (for 2015) and June 30, 2014 (for 2014).

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percentage of Payroll
Average Remaining Amortization Period	21 Years (2015), 24 Years (2014)
Asset Valuation Method	15-year Smoothed Market
Inflation	2.75%
Salary Increases	3.20% to 12.20% (2015), 3.30% to 14.20% (2014) Depending on Entry Age and Service.
Payroll Growth	3.00%
Investment Rate of Return	7.65% (2015) and 7.50%, Net of Administrative Expenses (2014), Including Inflation.
Retirement Age	50 to 67 years. Probabilities of Retirement are Based on the 2010 CalPERS Experience Study for the Period 1997 to 2007.
Mortality	Based on 2010 CalPERS Experience Study for the Period 1997 to 2007.

Omitted Years: GASB Statement No. 68 was implemented during the year ended December 31, 2015. Information was not available prior to 2014.

NEVADA IRRIGATION DISTRICT

REQUIRED SUPPLEMENTARY INFORMATION

December 31, 2015

SCHEDULE OF FUNDING PROGRESS OF THE OTHER POSTEMPLOYMENT BENEFITS PLAN (UNAUDITED)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
June 30, 2011	$ 3,668,000	$ 22,691,000	$ 19,023,000	16.16%	$ 9,734,000	195.43%
June 30, 2012	5,338,000	22,346,000	17,008,000	23.89%	9,666,000	175.96%
June 30, 2013	7,904,000	23,637,000	15,733,000	33.44%	9,980,000	157.65%

ACTUARIAL VALUATION
as of June 30, 2015

for the
MISCELLANEOUS PLAN
of the
NEVADA IRRIGATION DISTRICT
(CalPERS ID: 5193568792)
(Rate Plan ID: 1379)

REQUIRED CONTRIBUTIONS
FOR FISCAL YEAR
July 1, 2017 – June 30, 2018

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942701
Sacramento, CA 94229-2701
TTY: (916) 795-3240
(888) 225-7377 phone · (916) 795-2744 fax
www.calpers.ca.gov

August 2016

MISCELLANEOUS PLAN OF THE NEVADA IRRIGATION DISTRICT (CalPERS ID: 5193568792)
Annual Valuation Report as of June 30, 2015

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2015 actuarial valuation report of your pension plan. Your 2015 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary, whose signature appears in the "Actuarial Certification" section on page 1, is available to discuss the report with you after August 31, 2016.

Future Contributions

The exhibit below displays the minimum employer contributions for Fiscal Year 2017-18 and projected contributions for Fiscal Year 2018-19, before any cost sharing. The projected contributions for Fiscal Year 2018-19 are based on the most recent information available, including an estimate of the investment return for Fiscal Year 2015-16, namely 0.0 percent. For a projection of employer contributions beyond Fiscal Year 2018-19, please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section. This 5-year projection of future employer contributions supersedes any previous projections we have provided. The "Risk Analysis" section of the valuation report also contains estimated employer contributions in future years under a variety of investment return scenarios.

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability	Employee PEPRA Rate
2017-18	8.622%	$2,692,566	6.75%
2018-19 (projected)	8.6%	$3,136,239	N/A

Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the above. **The employer contributions in this report do not reflect any cost sharing arrangement you may have with your employees.**

The estimates for Fiscal Year 2018-19 also assume that there are no future contract amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.). This is a very important assumption because these gains and losses do occur and can have a significant impact on required contributions. These gains and losses cannot be predicted in advance so the projected employer contributions are just estimates. The actual required employer contributions for Fiscal Year 2018-19 will be provided in next year's report.

Changes since the Prior Year's Valuation

Beginning with Fiscal Year 2017-18 CalPERS will collect employer contributions toward the plan's unfunded liability as dollar amounts instead of the prior method of a contribution rate. This change will address potential funding issues that could arise from a declining payroll or reduction in the number of active members in the plan. Funding the unfunded liability as a percentage of payroll could lead to the underfunding of the plans. Although employers will be invoiced at the beginning of the fiscal year for their unfunded liability payment the plan's normal cost contribution will continue to be collected as a percentage of payroll.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. The policy establishes a mechanism whereby CalPERS investment performance that significantly outperforms the discount rate triggers adjustments to the discount rate, expected investment return and strategic asset allocation targets. A minimum excess investment return of 4% above the existing discount rate is necessary to cause a funding risk mitigation event. The policy has no impact on the current year valuation results but is expected to have an impact in future years. More details on the Risk Mitigation Policy can be found on our website.

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

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Actuarial Methods and Assumptions." The effects of the changes on the required contributions are included in the "Reconciliation of Required Employer Contributions" section.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after August 31 to contact us with actuarial questions. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or (**888-225-7377**).

Sincerely,

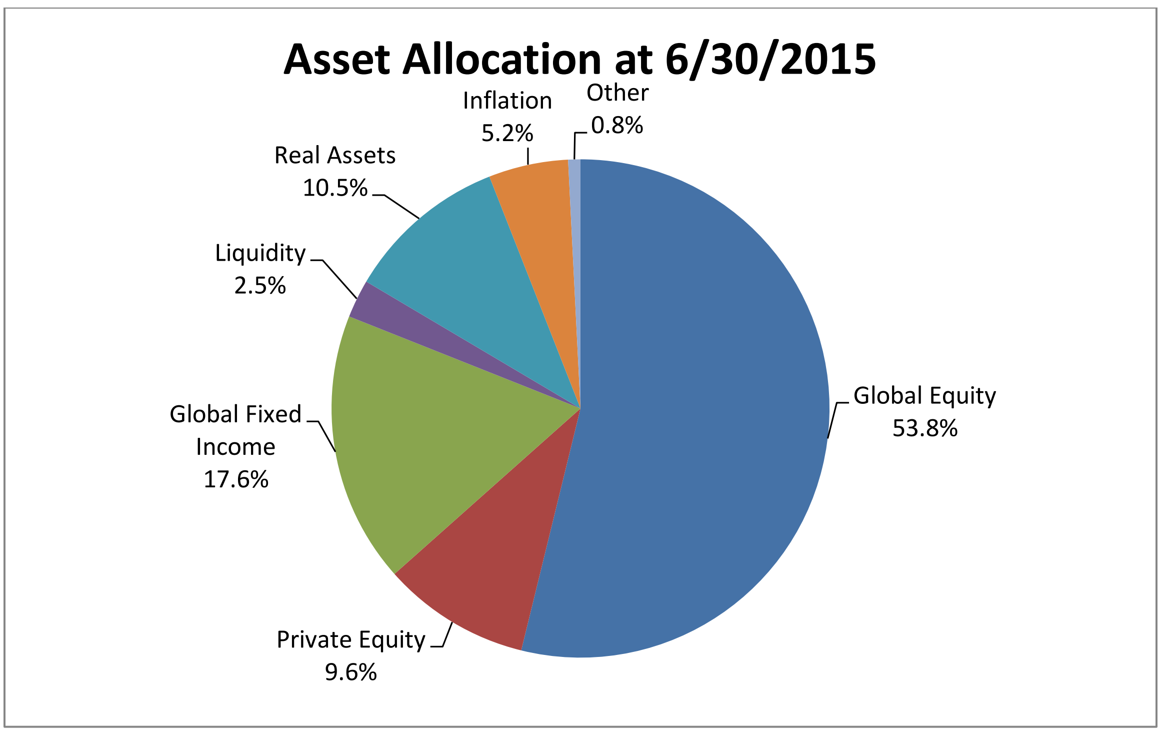
ALAN MILLIGAN
Chief Actuary

Asset Allocation

CalPERS adheres to an Asset Allocation Strategy which establishes asset class allocation policy targets and ranges, and manages those asset class allocations within their policy ranges. CalPERS Investment Belief No. 6 recognizes that strategic asset allocation is the dominant determinant of portfolio risk and return. On February 19, 2014, the CalPERS Board of Administration adopted changes to the current asset allocation as shown in the Policy Target Allocation below expressed as a percentage of total assets. The asset allocation has an expected long term blended rate of return of 7.5 percent.

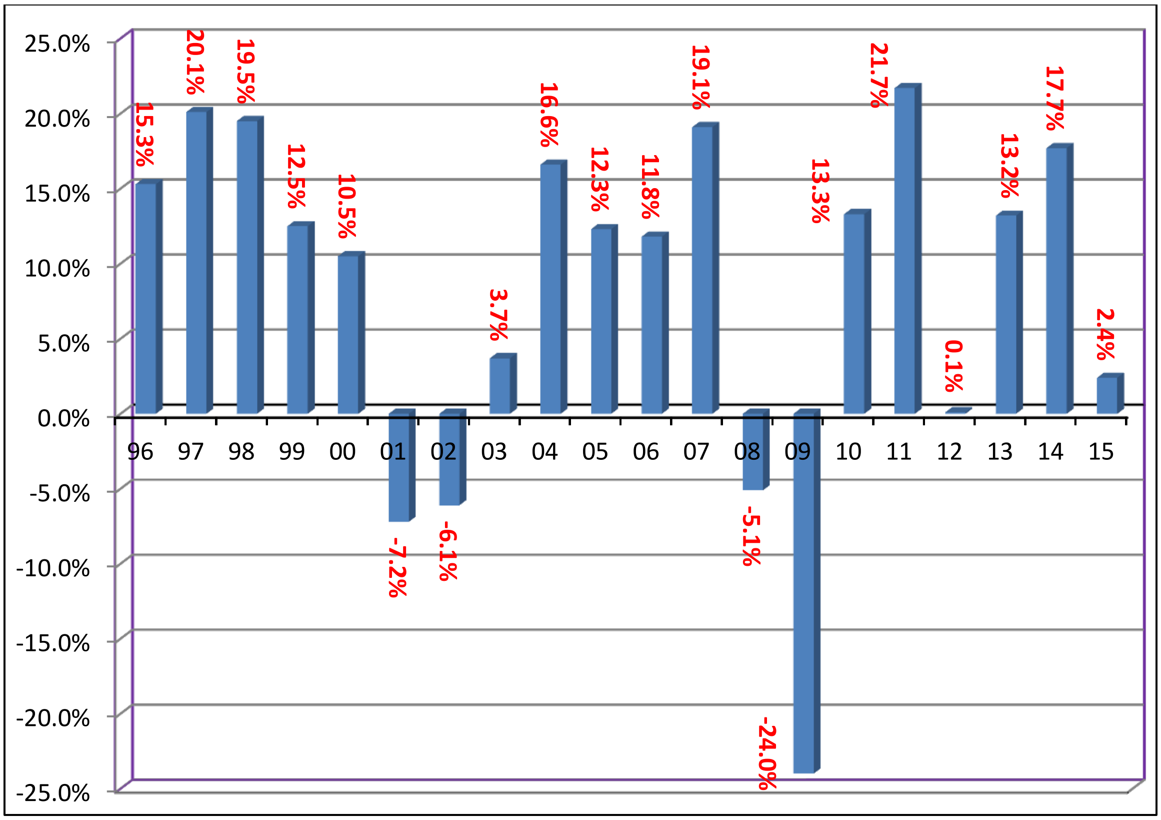
The asset allocation and market value of assets shown below reflect the values of the Public Employees' Retirement Fund (PERF) in its entirety as of June 30, 2015. The assets for NEVADA IRRIGATION DISTRICT MISCELLANEOUS PLAN are part of the PERF and are invested accordingly.

(A) Asset Class	(B) Market Value ($ Billion)	(C) Policy Target Allocation
Global Equity	162.5	51.0%
Private Equity	29.0	10.0%
Global Fixed Income	53.1	20.0%
Liquidity	7.5	1.0%
Real Assets	31.8	12.0%
Inflation Sensitive Assets	15.6	6.0%
Other	2.4	0.0%
Total Fund	**$301.9**	**100.0%**



CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning in 2002, the figures are reported as gross of fees.



The table below shows historical geometric mean annual returns of the Public Employees Retirement Fund for various time periods ending on June 30, 2015, (figures are reported as gross of fees). The geometric mean rate of return is the average rate per period compounded over multiple periods. It should be recognized that in any given year the rate of return is volatile. Although the expected rate of return on the recently adopted new asset allocation is 7.5 percent, the portfolio has an expected volatility of 11.76 percent per year. The volatility is a measure of the risk of the portfolio expressed in the standard deviation of the fund's total return distribution, expressed as a percentage. Consequently, when looking at investment returns, it is more instructive to look at returns over longer time horizons.

History of CalPERS Geometric Mean Rates of Return and Volatilities

	1 year	5 year	10 year	20 year	30 year
Geometric Return	2.4%	10.7%	6.1%	7.7%	9.1%
Volatility	–	9.4%	14.0%	11.8%	10.5%

Development of Accrued and Unfunded Liabilities

		June 30, 2014	June 30, 2015
1. Present Value of Projected Benefits			
a) Active Members	$	41,377,492	46,929,017
b) Transferred Members		1,531,513	1,450,327
c) Terminated Members		1,237,720	1,429,897
d) Members and Beneficiaries Receiving Payments		82,274,248	82,514,902
e) Total	$	126,420,973	132,324,143
2. Present Value of Future Employer Normal Costs	$	7,310,099	8,133,688
3. Present Value of Future Employee Contributions	$	6,791,252	7,705,948
4. Entry Age Normal Accrued Liability			
a) Active Members [(1a) - (2) - (3)]	$	27,276,141	31,089,381
b) Transferred Members (1b)		1,531,513	1,450,327
c) Terminated Members (1c)		1,237,720	1,429,897
d) Members and Beneficiaries Receiving Payments (1d)		82,274,248	82,514,902
e) Total	$	112,319,622	116,484,507
5. Market Value of Assets (MVA)	$	77,516,591	76,509,356
6. Unfunded Accrued Liability (UAL) [(4e) - (5)]	$	34,803,031	39,975,151
7. Funded Ratio [(5) / (4e)]		69.0%	65.7%

30-Year Amortization Schedule and Alternatives

	Current Amortization Schedule		Alternate Schedules: 20 Year Amortization		Alternate Schedules: 15 Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2017	40,725,577	2,692,566	40,725,577	3,075,002	40,725,577	3,733,295
6/30/2018	40,988,286	3,044,756	40,591,765	3,167,252	39,909,233	3,845,294
6/30/2019	40,905,538	3,415,651	40,352,271	3,262,270	38,915,540	3,960,652
6/30/2020	40,432,032	3,612,014	39,996,298	3,360,138	37,727,714	4,079,472
6/30/2021	39,719,418	3,791,781	39,512,155	3,460,942	36,327,606	4,201,856
6/30/2022	38,766,972	3,905,532	38,887,186	3,564,770	34,695,599	4,327,912
6/30/2023	37,625,151	4,022,699	38,107,692	3,671,713	32,810,495	4,457,749
6/30/2024	36,276,215	4,143,381	37,158,856	3,781,865	30,649,389	4,591,482
6/30/2025	34,700,982	3,719,268	36,024,649	3,895,321	28,187,544	4,729,226
6/30/2026	33,447,338	3,867,598	34,687,743	4,012,180	25,398,244	4,871,103
6/30/2027	31,945,879	3,983,623	33,129,407	4,132,546	22,252,645	5,017,236
6/30/2028	30,211,511	3,796,152	31,329,398	4,256,522	18,719,613	5,167,753
6/30/2029	28,541,442	3,910,036	29,265,846	4,384,218	14,765,543	5,322,786
6/30/2030	26,628,040	4,027,338	26,915,131	4,515,744	10,354,177	5,482,469
6/30/2031	24,449,509	3,441,023	24,251,743	4,651,217	5,446,396	5,646,943
6/30/2032	22,715,491	3,371,810	21,248,139	4,790,753		
6/30/2033	20,923,189	3,000,791	17,874,591	4,934,476		
6/30/2034	19,381,140	2,907,864	14,099,012	5,082,510		
6/30/2035	17,819,787	2,806,665	9,886,780	5,234,985		
6/30/2036	16,246,259	2,696,775	5,200,540	5,392,035		
6/30/2037	14,668,653	2,777,678				
6/30/2038	12,888,845	2,861,007				
6/30/2039	10,889,152	2,946,840				
6/30/2040	8,650,491	3,035,242				
6/30/2041	6,152,272	2,234,097				
6/30/2042	4,297,329	2,148,086				
6/30/2043	2,392,446	1,887,907				
6/30/2044	614,457	425,381				
6/30/2045	219,496	88,503				
6/30/2046	144,196	149,506				
Totals		**88,711,570**		**82,626,459**		**69,435,228**
Estimated Savings				**6,085,111**		**19,276,342**

Reconciliation of Required Employer Contributions

Normal Cost (% of Payroll)

1. For Period 7/1/16 – 6/30/17	
a) Employer Normal Cost	8.847%
b) Employee Contribution	7.776%
c) Total Normal Cost	16.623%
2. Effect of changes since the prior year annual valuation	
a) Effect of changes in demographics results	(0.341%)
b) Effect of plan changes	0.000%
c) Effect of changes in assumptions	0.000%
d) Net effect of the changes above [sum of (a) through (c)]	(0.341%)
3. For Period 7/1/17 – 6/30/18	
a) Employer Normal Cost	8.622%
b) Employee Contribution	7.660%
c) Total Normal Cost	16.282%
Employer Normal Cost Change [(3a) – (1a)]	(0.225%)
Employee Contribution Change [(3b) – (1b)]	(0.116%)

Unfunded Liability Contribution ($)

1. For Period 7/1/16 – 6/30/17	2,358,311
2. Effect of changes since the prior year annual valuation	
a) Effect of changes in demographics and financial results	63,442
b) Effect of plan changes	0
c) Effect of changes in assumptions	0
d) Effect of progression of amortization payments	270,813
e) Effect of changes due to Fresh Start	0
f) Effect of elimination of amortization base	0
g) Net effect of the changes above [sum of (a) through (f)]	334,255
3. For Period 7/1/17 – 6/30/18 [(1)+(2g)]	2,692,566

The amounts shown for the period 7/1/16 – 6/30/17 may be different if a prepayment of unfunded actuarial liability is made or a plan change became effective after the prior year's actuarial valuation was performed.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made during a fiscal year.

	Required By Valuation		
Fiscal Year	**Employer Normal Cost**	**Unfunded Rate**	**Unfunded Liability Payment ($)**
2012 - 13	8.088%	13.072%	N/A
2013 - 14	8.670%	14.030%	N/A
2014 - 15	8.728%	17.771%	N/A
2015 - 16	8.841%	19.066%	N/A
2016 - 17	8.847%	21.126%	N/A
2017 - 18	8.622%	N/A	2,692,566

Funding History

The table below shows the recent history of the actuarial accrued liability, the market value of assets, the funded ratio and the annual covered payroll.

Valuation Date	**Accrued Liability**	**Market Value of Assets (MVA)**	**Unfunded Liability**	**Funded Ratio**	**Annual Covered Payroll**
06/30/10	$ 89,323,172	$ 55,132,220	$ 34,190,952	61.7%	$ 10,302,099
06/30/11	94,462,942	65,088,052	29,374,890	68.9%	10,283,213
06/30/12	98,365,938	62,576,901	35,789,037	63.6%	9,667,622
06/30/13	102,575,329	68,418,010	34,157,319	66.7%	10,084,783
06/30/14	112,319,622	77,516,591	34,803,031	69.0%	10,215,613
06/30/15	116,484,507	76,509,356	39,975,151	65.7%	11,874,347

For the last two scenarios in the table above the results incorporate the impact of CalPERS Risk Mitigation Policy. A 12.0% return would result in a reduction of the discount rate by 0.05% and a return of 18.9% would reduce the discount rate by 0.15%. Reducing the discount rate increases both the plan's accrued liability and normal cost. While the projections reflect estimated changes to the normal cost due to lower discount rates, they do not reflect the possible increase in the PEPRA member contribution rate in such scenarios. More details about the Risk Mitigation policy can be found on our website.

The projected normal cost percentages do not reflect that the normal cost will decline over time as new employees are hired into PEPRA or other lower cost benefit tiers.

Analysis of Discount Rate Sensitivity

The following analysis looks at the Fiscal Year 2017-18 total normal cost rates and liabilities under two different discount rate scenarios. Shown below are the total normal cost rates assuming discount rates that are 1 percent lower and 1 percent higher than the current valuation discount rate. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.50 percent or 8.50 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions.

Sensitivity Analysis			
As of June 30, 2015	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Plan's Total Normal Cost	20.474%	16.282%	13.138%
Accrued Liability	$131,416,261	$116,484,507	$104,147,654
Unfunded Accrued Liability	$54,906,905	$39,975,151	$27,638,298

Summary of Valuation Data

	June 30, 2014	June 30, 2015
1. **Active Members**		
a) Counts	167	189
b) Average Attained Age	42.57	42.76
c) Average Entry Age to Rate Plan	33.52	34.10
d) Average Years of Service	9.05	8.66
e) Average Annual Covered Pay	$ 61,171	$ 62,827
f) Annual Covered Payroll	10,215,613	11,874,347
g) Projected Annual Payroll for Contribution Year	11,162,876	12,975,420
h) Present Value of Future Payroll	87,654,784	101,080,514
2. **Transferred Members**		
a) Counts	19	20
b) Average Attained Age	46.19	47.69
c) Average Years of Service	4.81	4.21
d) Average Annual Covered Pay	$ 68,974	$ 79,522
3. **Terminated Members**		
a) Counts	30	36
b) Average Attained Age	43.23	44.38
c) Average Years of Service	4.53	4.24
d) Average Annual Covered Pay	$ 41,756	$ 42,342
4. **Retired Members and Beneficiaries**		
a) Counts	212	210
b) Average Attained Age	68.90	69.24
c) Average Annual Benefits	$ 31,063	$ 31,777
5. **Active to Retired Ratio** [(1a) / (4a)]	0.79	0.90

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Average Annual Benefits represents benefit amounts payable by this plan only. Some members may have service with another agency and would therefore have a larger total benefit than would be included as part of the average shown here.

Glossary of Actuarial Terms

Accrued Liability *(also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability)*
The total dollars needed as of the valuation date to fund all benefits earned in the past for *current* members.

Actuarial Assumptions
Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods
Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include funding method, setting the length of time to fund the Accrued Liability and determining the Value of Assets.

Actuarial Valuation
The determination, as of a valuation date of the Normal Cost, Accrued liability, and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. However, all bases are amortized using investment and payroll assumptions from the current valuation. This can be likened to a home having a first mortgage of 24 years remaining payments and a second mortgage that has 10 years remaining payments. Each base or each mortgage note has its own terms (payment period, principal, etc.)

Generally, in an actuarial valuation, the separate bases consist of changes in unfunded liability due to contract amendments, actuarial assumption changes, actuarial methodology changes, and/or gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

Amortization Period
The number of years required to pay off an Amortization Base.

Classic Member (under PEPRA)
A classic member is a member who joined CalPERS prior to January, 1, 2013 and who is not defined as a new member under PEPRA. (See definition of new member below)

Discount Rate Assumption
The actuarial assumption that was called "investment return" in earlier CalPERS reports or "actuarial interest rate" in Section 20014 of the California Public Employees' Retirement Law (PERL).

Entry Age
The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Normal Cost Method
An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.
(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Fresh Start
A Fresh Start is when multiple amortization bases are collapsed to one base and amortized together over a new funding period.

Funded Status
A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

GASB 68
Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions. GASB 68 replaces GASB 27 effective the first fiscal year beginning after June 15, 2014.

New Member (under PEPRA)
A new member includes an individual who becomes a member of a public retirement system for the first time on or after January 1, 2013, and who was not a member of another public retirement system prior to that date, and who is not subject to reciprocity with another public retirement system.

Normal Cost
The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

Pension Actuary
A business professional that is authorized by the Society of Actuaries, and the American Academy of Actuaries to perform the calculations necessary to properly fund a pension plan.

PEPRA
The California Public Employees' Pension Reform Act of 2013

Prepayment Contribution
A payment made by the employer to reduce or eliminate the year's required employer contribution.

Present Value of Benefits (PVB)
The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Superfunded
A condition existing when a plan's Actuarial Value of Assets exceeds its Present Value of Benefits. Prior to the passage of PEPRA, when this condition existed on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation could be waived.

Unfunded Liability (UAL)
When a plan or pool's Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Liability. If the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

California Employers' Retiree Benefit Trust

Nevada Irrigation District

Annual Update

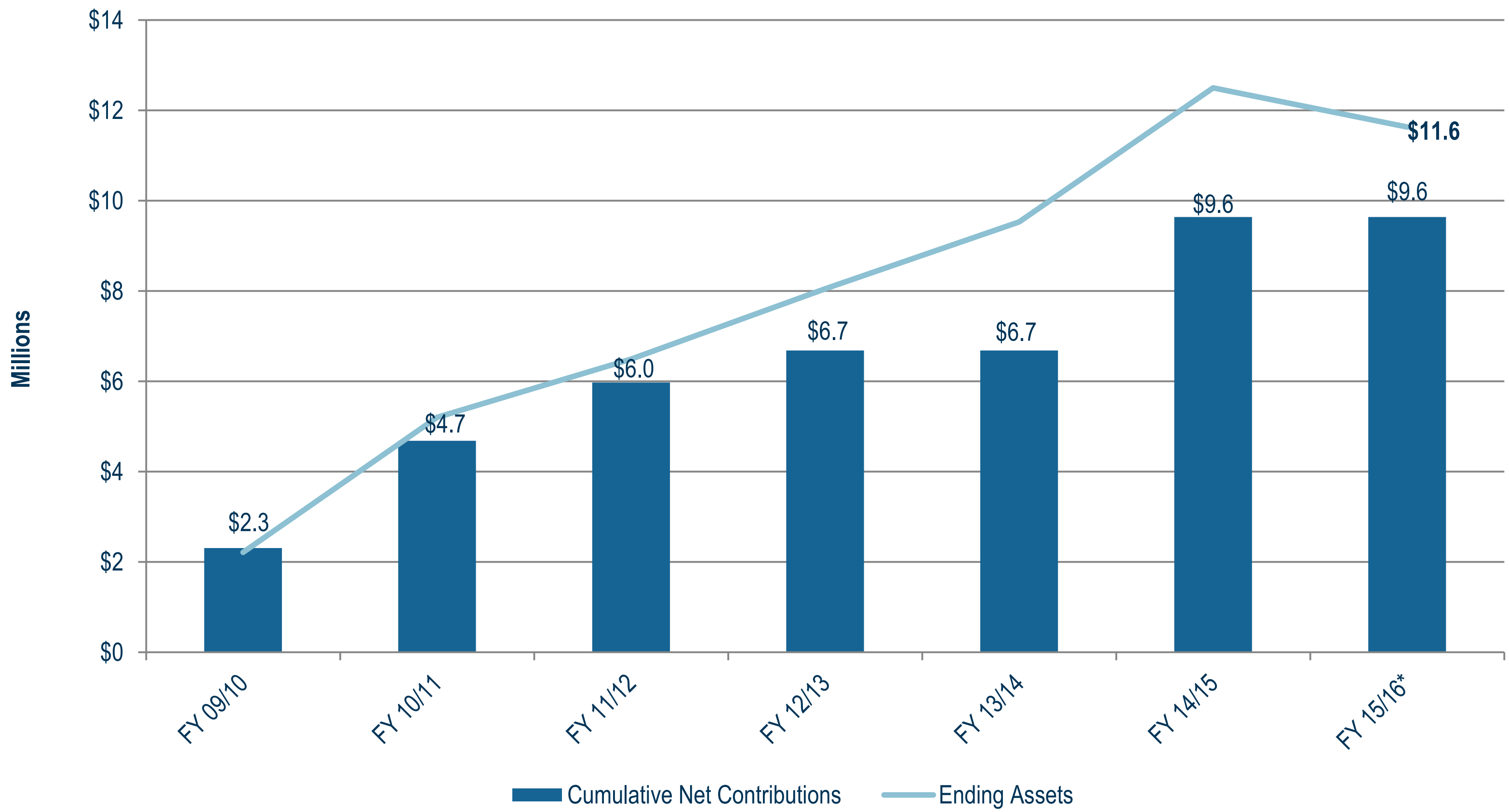
April 6, 2016

Valuation summary

Valuation dated June 30, 2013 – Doug Pryor, Bartel Associates, LLC	
Actuarial Accrued Liability (AAL)*	$23,637,000
Present Value of Benefits (PVB)*	$29,347,000
Annual Required Contribution (ARC)**	$2,245,000
Normal Cost**	$742,000
Amortization of Unfunded Actuarial Accrued Liability**	$1,503,000
Pay-as-you-go**	$1,362,000
Implicit Rate Subsidy**	$260,000
Total Covered Lives (Active & Retiree)*	315
Asset Allocation Strategy Selection	Strategy 1
Discount Rate	7.25%

*Amounts as of Valuation date, ** Amounts for CY 2014-15

Contribution summary by fiscal year



***FY 15-16 is through February 29, 2016**

Account summary

Account summary as of February 29, 2016	
Initial contribution (12/30/2009)	$2,311,000
Additional contributions	$7,328,235
Disbursements	($0)
CERBT expenses	($52,297)
Investment earnings	$2,046,142
Total assets	$11,633,081
Average annualized internal rate of return (12/30/2009-2/29/2016)	5.13%

As of the District's prior Annual Update through March 31, 2015, the Average Annualized Internal ROR was 9.40%

Agreement effective date: 12/1/2009

Funded status comparison

Fiscal Year Ending	Estimated AAL*	Market Value of Assets	Funded Ratio
6/30/2014	$24,723,237	$9,530,631	38.55%
6/30/2015	$25,889,022	$12,501,001	48.29%

* Estimated AAL represents roll forward projections of AAL to fiscal year end

CERBT Total Participation Cost

- Total cost of CERBT participation is 10 basis points of assets under management
  - Consists of administrative and investment management expenses borne by CalPERS and paid to State Street Global Advisors
  - CERBT is a self-funded trust
  - Employer account charged daily
  - CERBT does not profit
  - Rate can be changed without prior notice and may be higher or lower in the future

Looking ahead

GASB 74 & 75 overview:

- Employers will report the Net OPEB Liability on their financials
  - For many, this will be the largest reported liability
- ARC no longer relevant for accounting purposes
- Annual expenses will be based on the change in Net Liability between Measurement Dates
- Amortization periods likely to be substantially shorter
  - More volatile in expenses

Looking ahead

GASB 74 & 75 overview:

- Measurement date is detached from actuarial valuation date
  - More employer flexibility to deal with actuary's workload
- Triennial valuations will not be allowed
- Late contribution accruals will not be allowed
- Significant increase in Note Disclosures and Required Supplementary Information
  - Ultimately 10 years of historical reporting

Looking ahead

GASB 74 & 75 overview:

- Effective dates for implementation

Employer Fiscal Year End	Effective Dates
December	12/31/2018
March	03/31/2019
June	06/30/2018
September	09/30/2018

CalPERS

Submission of 2015 OPEB Cost Report

- To comply with GASB 57 the measurement date of your current OPEB cost report must be June 30, 2015 (or July 1, 2015)
- Documents Required for OPEB Cost Report Renewal:
  - Actuarial Valuation Report or AMM Report
  - Summary of Actuarial Information
  - Certification of Actuarial Information (Valuation), or Affirmation of OPEB Cost Analysis Report (AMM)
  - Certification of Funding Policy
- Please provide CERBT with renewal OPEB documents as soon as possible

CERBT FY 2014-15 highlights

In FY 2014-15 the CERBT experienced a number of significant milestones

- 462 – Total CERBT contracts
- $594 million – Net contributions during the FY
- $4.5 billion – FY-end assets under management
- 15.1% – Growth of trust assets during the FY
- CERBT fee rate decreased by three basis points

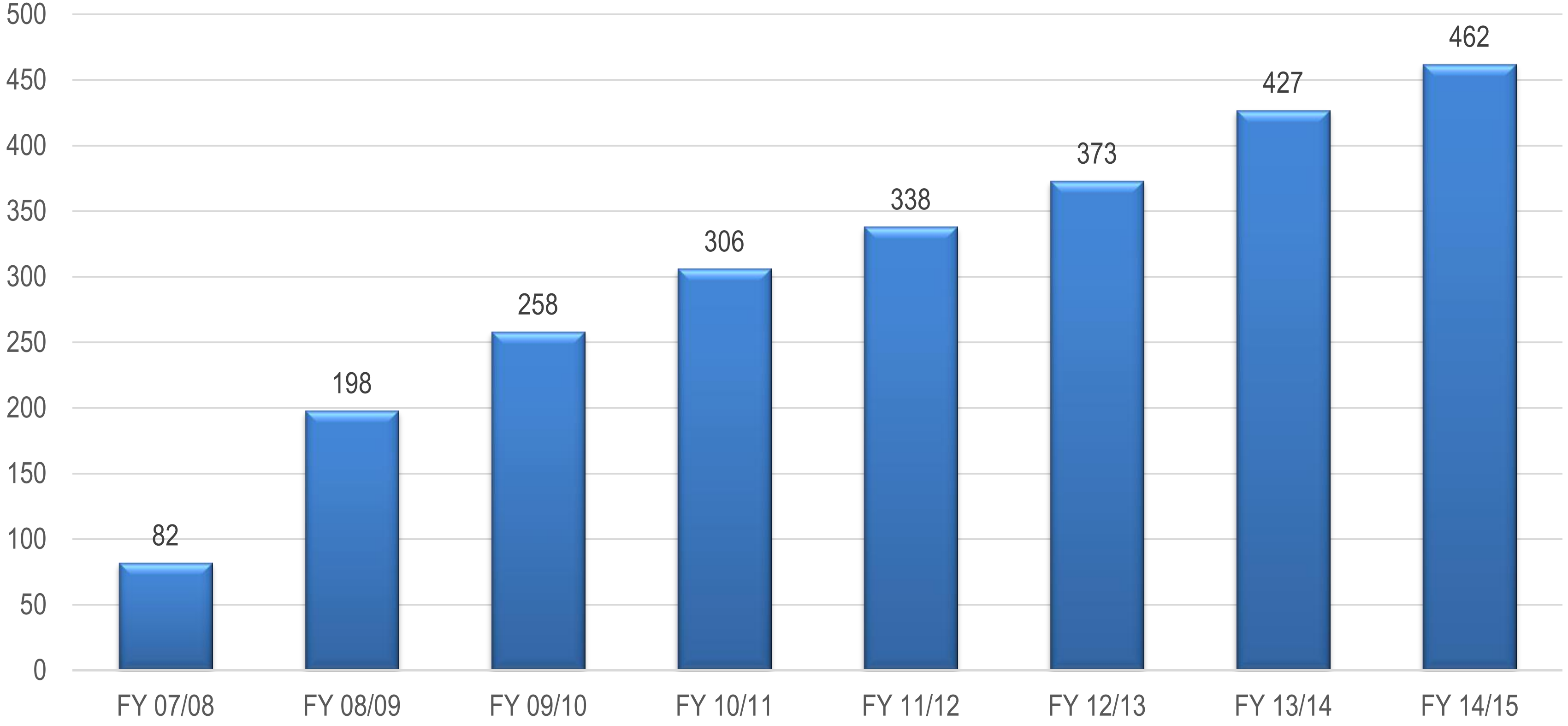
CERBT employers under contract

478 Total

- State of California
- 123 Cities or Towns
- 14 Counties
- 47 Schools
- 20 Courts
- 273 Special Districts and other Public Agencies
  - (81 Water, 32 Sanitation, 29 Fire, 21 Transportation)

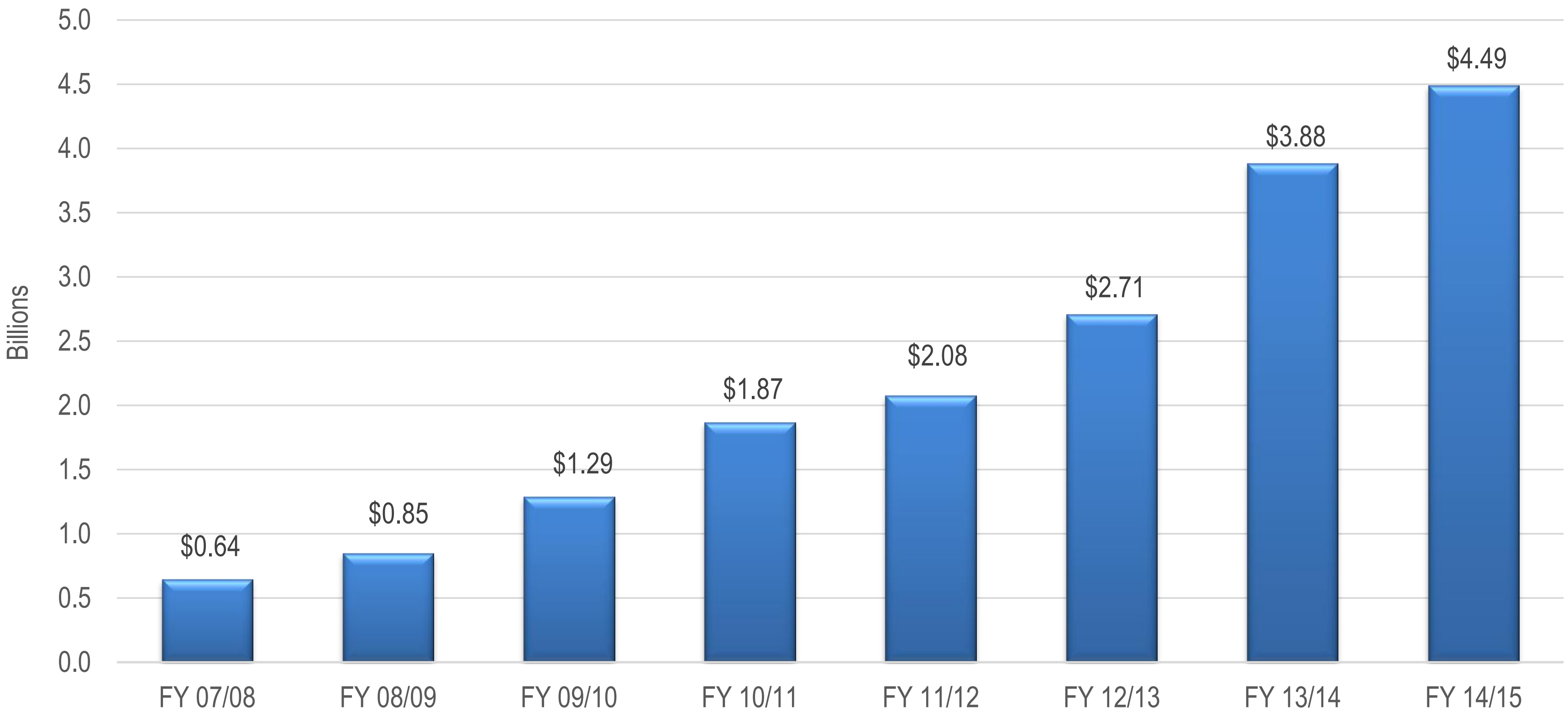
As of March 25, 2016

CERBT employers cumulative growth



As of June 30, 2015

CERBT cumulative assets under management



As of June 30, 2015