

# Staff Report

for the Board of Directors' Meeting of August 12, 2020

**TO:** Board of Directors  
**FROM:** Marvin Davis, MBA, CPA, Finance Manager/Treasurer  
**DATE:** August 5, 2020  
**SUBJECT:** Pension & OPEB Liabilities

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***FINANCE***

## **RECOMMENDATION:**

Receive an informational presentation on the District's Net Pension Liability (NPL) and Other Post Employment Benefit (OPEB) Liability.

## **BACKGROUND:**

The Board has requested an update on these long-term liabilities. Staff delivered a presentation on these liabilities at the September 14, 2016 Board meeting addressing questions from the public.

As of December 31, 2018, the most recent completed Comprehensive Annual Financial Report (CAFR), the District's NPL is \$47.5 million, and OPEB liability is \$8.8 million. Staff will discuss the following topics specific to each liability:

- Historical liability and plan assets
- Assumption rates (discount, mortality, inflation) sensitivity to the liability
- Current funding or amortization schedules

An update on the District's long-term liabilities achieves Goal Number 1 of the District's Strategic Plan by demonstrating proactive management of obligations.

**BUDGETARY IMPACT:** N/A

Attachments:

- Attachment A: 2018 CAFR (Select Pages)
- Attachment B: CALPERS Actuarial Valuation Pension (Select Pages)
- Attachment C: California Employer's Retiree Benefit Trust (Select Pages)
- Attachment D: OPEB Actuarial Report (Select Pages)

NEVADA IRRIGATION DISTRICT

REQUIRED SUPPLEMENTARY INFORMATION

December 31, 2018  
Last 10 Years

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS (Unaudited)

|  | 2018                 | 2017                 | 2016                 | 2015                 | 2014                 |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| Total Pension Liability  |                      |                      |                      |                      |                      |
| Service Cost   | \$ 2,364,428         | \$ 2,298,162         | \$ 1,926,560         | \$ 1,691,635         | \$ 1,765,326         |
| Interest on Total Pension Liability  | 8,986,105            | 8,801,321            | 8,570,812            | 8,255,944            | 7,905,821            |
| Changes in Assumptions   | (617,049)            | 7,082,987            |                      | (1,922,782)          |                      |
| Differences Between Actual and Expected Experience                         | (721,555)            | 290,763              | 782,741              | 1,142,319            |                      |
| Benefit Payments, Including Refunds of Employee Contributions              | (7,242,753)          | (7,176,467)          | (6,820,099)          | (6,643,641)          | (6,044,270)          |
| Net Change in Total Pension Liability                                      | 2,769,176            | 11,296,766           | 4,460,014            | 2,523,475            | 3,626,877            |
| Total Pension Liability - Beginning  | 129,457,558          | 118,160,792          | 113,700,778          | 111,177,303          | 107,550,426          |
| Total Pension Liability - Ending (a)                                       | <u>\$132,226,734</u> | <u>\$129,457,558</u> | <u>\$118,160,792</u> | <u>\$113,700,778</u> | <u>\$111,177,303</u> |
| Plan Fiduciary Net Position  |                      |                      |                      |                      |                      |
| Contributions - Employer   | \$ 3,930,086         | \$ 3,954,877         | \$ 3,510,366         | \$ 3,098,851         | \$ 2,449,665         |
| Contributions - Employee   | 1,094,327            | 1,021,683            | 975,138              | 921,705              | 909,560              |
| Net Investment Income  | 6,710,253            | 8,254,320            | 369,777              | 1,695,016            | 11,836,566           |
| Net Plan to Plan Resource Movement   | (196)                |                      |                      |                      |                      |
| Other Miscellaneous Income (Expense)                                       | (238,450)            |                      |                      |                      |                      |
| Benefit Payments   | (7,242,753)          | (7,176,467)          | (6,820,099)          | (6,643,641)          | (6,044,270)          |
| Administrative Expenses  | (125,565)            | (110,194)            | (46,712)             | (86,331)             |                      |
| Net Change in Plan Fiduciary Net Position                                  | 4,127,702            | 5,944,219            | (2,011,530)          | (1,014,400)          | 9,151,521            |
| Plan Fiduciary Net Position - Beginning                                    | 80,579,641           | 74,635,422           | 76,646,952           | 77,661,352           | 68,509,831           |
| Plan Fiduciary Net Position - Ending (b)                                   | <u>\$ 84,707,343</u> | <u>\$ 80,579,641</u> | <u>\$ 74,635,422</u> | <u>\$ 76,646,952</u> | <u>\$ 77,661,352</u> |
| Net Pension Liability - Ending (a) - (b)                                   | <u>\$ 47,519,391</u> | <u>\$ 48,877,917</u> | <u>\$ 43,525,370</u> | <u>\$ 37,053,826</u> | <u>\$ 33,515,951</u> |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | <u>64.06%</u>        | <u>62.24%</u>        | <u>63.16%</u>        | <u>67.41%</u>        | <u>69.85%</u>        |
| Covered Payroll - Plan Year  | <u>\$ 13,628,612</u> | <u>\$ 12,972,241</u> | <u>\$ 12,230,577</u> | <u>\$ 10,522,081</u> | <u>\$ 10,387,326</u> |
| Net Pension Liability as a Percentage of Covered Payroll                   | <u>348.67%</u>       | <u>376.79%</u>       | <u>355.87%</u>       | <u>352.15%</u>       | <u>322.66%</u>       |

Notes to Schedule:

Change in Benefit Terms: The figures above do not include any liability impact that may have resulted from plan changes which occurred after valuation dates. This applies for voluntary benefit changes as well as any offers of Two Years of Additional Service Credit (a.k.a. Golden Handshakes).

Changes in Assumptions: In 2017, amounts reported reflect an adjustment of the discount rate from 7.65 percent to 7.15 percent. In 2016, there were no changes. In 2015, amounts reported reflect an adjustment of the discount rate from 7.5 percent (net of administrative expense) to 7.65 percent (without a reduction from pension plan administrative expense.) In 2014, amounts reported were based on the 7.5 percent discount rate.

Omitted Years: GASB Statement No. 68 was implemented during the year ended December 31, 2014. No information was available prior to this date. Ten years of information will be presented as it becomes available.

NEVADA IRRIGATION DISTRICT

NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

December 31, 2018

**NOTE 7 – PENSION PLANS (Continued)**

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<br>Plan  |
|--|------------------------|
| 1% Decrease<br>Net Pension Liability           | 6.15%<br>\$ 64,606,553 |
| Current Discount Rate<br>Net Pension Liability | 7.15%<br>\$ 47,519,391 |
| 1% Increase<br>Net Pension Liability           | 8.15%<br>\$ 33,387,986 |

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

Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions: For the year ended December 31, 2018, the District recognized pension expense of \$6,140,441. At December 31, 2018, the District reported deferred outflows of resources and deferred inflows of resources related to the Plan from the following sources:

|  | Deferred<br>Outflows of<br>Resources | Deferred<br>Inflows of<br>Resources |
|--|--------------------------------------|-------------------------------------|
| Pension contributions subsequent<br>to measurement date                      | \$ 2,273,012                         |                                     |
| Differences between actual and<br>expected experience                        | 416,810                              | \$ (564,695)                        |
| Changes in assumptions   | 3,710,137                            | (529,805)                           |
| Net differences between projected<br>and actual earnings on plan investments | 327,173                              |                                     |
| Total  | <u>\$ 6,727,132</u>                  | <u>\$ (1,094,500)</u>               |

NEVADA IRRIGATION DISTRICT

NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

December 31, 2018

**NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS PLAN (Continued)**

Discount Rate: The discount rates used to measure the net OPEB liabilities was 6.75%, which was the same discount rate used in the previous valuations. The projection of cash flows used to determine the discount rate assumed that the District contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Plans' fiduciary net positions were projected to be available to make all projected OPEB payments for current active and inactive employees. Therefore, the long-term expected rate of return on OPEB plan investments were applied to all periods of projected benefit payments to determine the net OPEB liabilities.

Changes in the Net OPEB Liability: Changes in the net OPEB liability were as follows during the year ended December 31, 2018:

|                              | Increase (Decrease)     |                                |                       |
|------------------------------|-------------------------|--------------------------------|-----------------------|
|                              | Total OPEB<br>Liability | Plan Fiduciary<br>Net Position | Net OPEB<br>Liability |
| Balance at December 31, 2017 | \$ 24,095,000           | \$ 14,606,000                  | \$ 9,489,000          |
| Changes in the year:         |                         |                                |                       |
| Service cost                 | 597,000                 |                                | 597,000               |
| Interest                     | 1,621,000               |                                | 1,621,000             |
| Contributions - employer     |                         | 1,835,000                      | (1,835,000)           |
| Investment income            |                         | 1,159,000                      | (1,159,000)           |
| Administrative expenses      |                         | (44,000)                       | 44,000                |
| Benefit payments             | (1,328,000)             | (1,328,000)                    |                       |
| Net changes                  | 890,000                 | 1,622,000                      | (732,000)             |
| Balance at December 31, 2018 | <u>\$ 24,985,000</u>    | <u>\$ 16,228,000</u>           | <u>\$ 8,757,000</u>   |

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate: The following presents the net OPEB liability of the District, as well as what the District's net OPEB 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 discount rate:

|                    | 1% Decrease   | Current<br>Discount Rate | 1% Increase  |
|--------------------|---------------|--------------------------|--------------|
|                    | (5.75%)       | (6.75%)                  | (7.75%)      |
| Net OPEB liability | \$ 12,010,000 | \$ 8,757,000             | \$ 6,079,000 |

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates: The following presents the total OPEB liability of the District, as well as what the District's total OPEB liability would be if it were calculated using healthcare cost trend rates that are 1 percentage point lower or 1 percentage point higher than the current healthcare cost trend rates:

|  | 1% Decrease        | Current Healthcare Cost<br>Trend Rates | 1% Increase  |
|--|--------------------|--|--------------|
|  | Net OPEB liability | \$ 5,793,000                           | \$ 8,757,000 |



California Public Employees' Retirement System

Actuarial Office

400 Q Street, Sacramento, CA 95811 | Phone: (916) 795-3000 | Fax: (916) 795-2744

888 CalPERS (or 888-225-7377) | TTY: (877) 249-7442 | [www.calpers.ca.gov](http://www.calpers.ca.gov)

July 2019

Miscellaneous Plan of the Nevada Irrigation District (CalPERS ID: 5193568792)  
Annual Valuation Report as of June 30, 2018

Dear Employer,

Attached to this letter, you will find the June 30, 2018 actuarial valuation report of your CalPERS pension plan. **Provided in this report is the determination of the minimum required employer contributions for Fiscal Year 2020-21.** In addition, the report also contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Actuarial valuations are based on assumptions regarding future plan experience including investment return and payroll growth, eligibility for the types of benefits provided, and longevity among retirees. The CalPERS Board of Administration adopts these assumptions after considering the advice of CalPERS actuarial and investment teams and other professionals. Each actuarial valuation reflects all prior differences between actual and assumed experience and adjusts the contribution rates as needed. This valuation is based on an investment return assumption of 7.0% which was adopted by the board in December 2016. Other assumptions used in this report are those recommended in the CalPERS Experience Study and Review of Actuarial Assumptions report from December 2017.

**Required Contributions**

The exhibit below displays the minimum required employer contributions and the Employee PEPRA Rate for Fiscal Year 2020-21 along with an estimate of the required contribution for Fiscal Year 2021-22. Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement you may have with your employees.**

| Fiscal Year              | Employer Normal Cost Rate | Employer Amortization of Unfunded Accrued Liability | Employee PEPRA Rate |
|--------------------------|---------------------------|---|---------------------|
| 2020-21                  | 10.411%                   | \$3,957,901   | 6.75%               |
| <i>Projected Results</i> |                           |   |                     |
| 2021-22                  | 10.4%                     | \$4,343,000   | TBD                 |

The actual investment return for Fiscal Year 2018-19 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 7.00 percent. **To the extent the actual investment return for Fiscal Year 2018-19 differs from 7.00 percent, the actual contribution requirements for Fiscal Year 2021-22 will differ from those shown above.** For additional details regarding the assumptions and methods used for these projections please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section. This section also contains projected required contributions through fiscal year 2025-26.

**Changes from previous Year's Valuations**

CalPERS continues to strive to provide comprehensive risk assessments regarding plan funding and sustainability consistent with the Board of Administration's pension and investment beliefs. Your report this year includes new metrics on plan maturity in recognition of the fact that most pension plans at CalPERS are maturing as anticipated. As plans mature, they become much more sensitive to risks than plans that are less mature. The "Risk Analysis" section of your report will help you understand how your plan is affected by investment return volatility and other economic assumptions. We have included plan sensitivity analysis with respect to longevity and inflation to further that discussion and encourage you to review our most recent Annual Review of Funding Levels and Risks report on our website that takes a holistic view of the system.

## Plan's Funded Status

|   | June 30, 2017  | June 30, 2018  |
|---|----------------|----------------|
| 1. Present Value of Projected Benefits          | \$ 147,015,065 | \$ 158,844,271 |
| 2. Entry Age Normal Accrued Liability           | 126,977,608    | 135,815,945    |
| 3. Market Value of Assets (MVA)                 | \$ 80,401,863  | \$ 84,775,529  |
| 4. Unfunded Accrued Liability (UAL) [(2) – (3)] | \$ 46,575,745  | \$ 51,040,416  |
| 5. Funded Ratio [(3) / (2)]                     | 63.3%          | 62.4%          |

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

## Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Actuarial Methods and Assumptions." The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. The projected normal cost percentages in the projections below do not reflect that the normal cost will decline over time as new employees are hired into PEPRA or other lower cost benefit tiers.

| Fiscal Year                     | Required Contribution | Projected Future Employer Contributions<br>(Assumes 7.00% Return for Fiscal Year 2018-19) |                   |                   |                   |                   |
|---------------------------------|-----------------------|---|-------------------|-------------------|-------------------|-------------------|
|                                 |                       | 2020-21   | 2021-22           | 2022-23           | 2023-24           | 2024-25           |
| Normal Cost %                   | 10.411%               | 10.4%   | 10.4%             | 10.4%             | 10.4%             | 10.4%             |
| UAL Payment                     | 3,957,901             | 4,343,000   | 4,675,000         | 4,878,000         | 5,109,000         | 4,718,000         |
| <i>Total as a % of Payroll*</i> | <i>35.0%</i>          | <i>36.7%</i>  | <i>38.0%</i>      | <i>38.4%</i>      | <i>38.9%</i>      | <i>36.0%</i>      |
| <i>Projected Payroll</i>        | <i>16,079,579</i>     | <i>16,521,768</i>   | <i>16,976,117</i> | <i>17,442,960</i> | <i>17,922,641</i> | <i>18,415,514</i> |

\*Illustrative only and based on the projected payroll shown.

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A. This method phases in the impact of changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

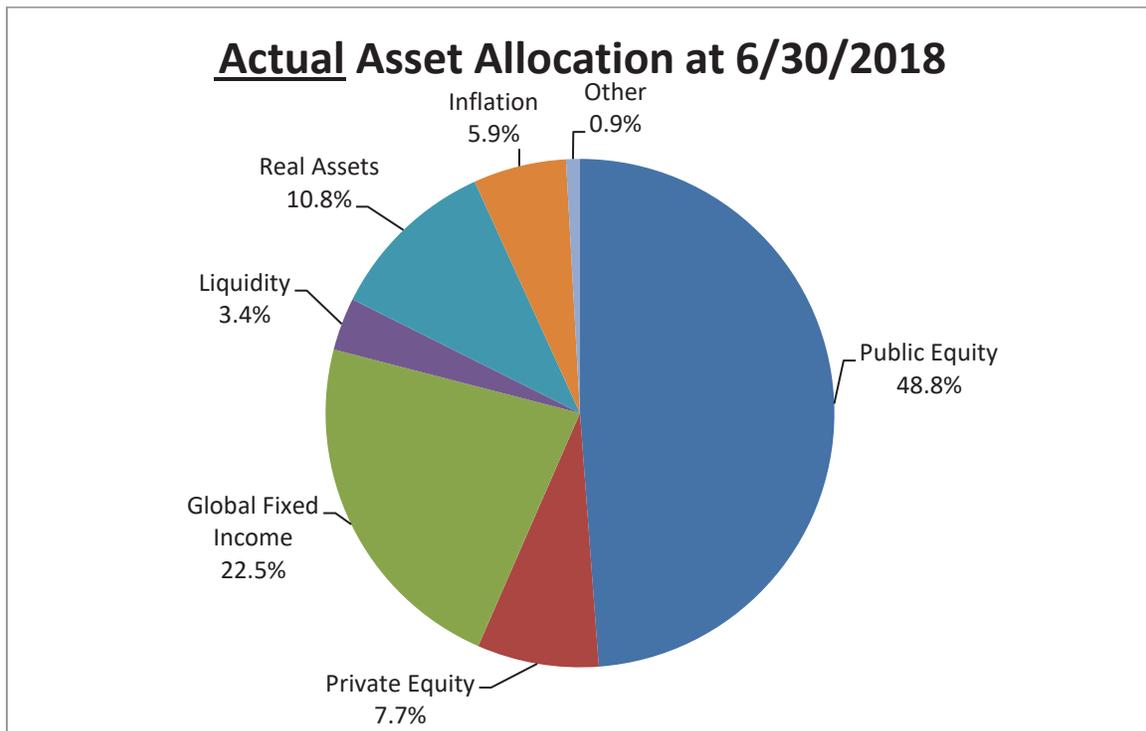
For projected contributions under alternate investment return scenarios, please see the "Future Investment Return Scenarios" in the "Risk Analysis" section.

## 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 December 19, 2017, 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.

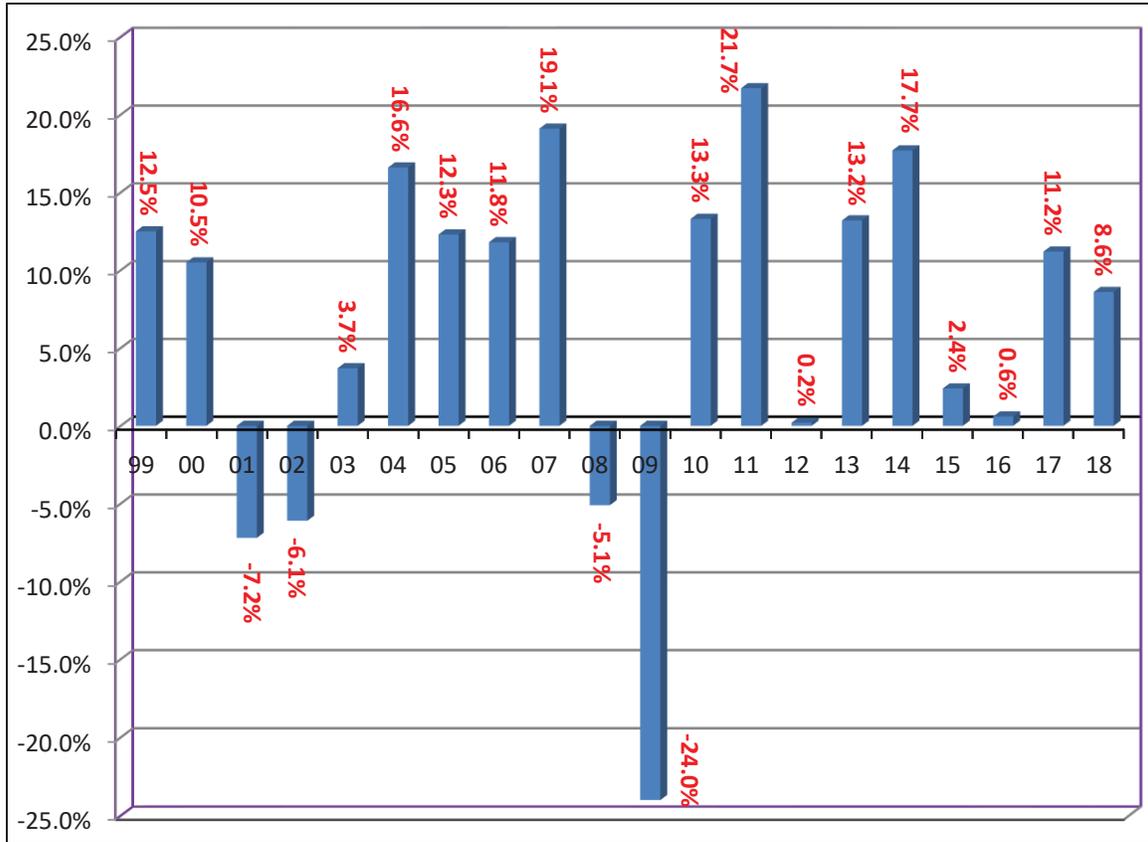
The asset allocation and market value of assets shown below reflect the values of the Public Employees' Retirement Fund (PERF) in its entirety as of June 30, 2018. The assets for Nevada Irrigation District Miscellaneous Plan are part of the PERF and are invested accordingly.

| (A)<br>Asset Class         | (B)<br>Market Value<br>(\$ Billion) | (C)<br>Policy Target<br>Allocation |
|----------------------------|-------------------------------------|------------------------------------|
| Public Equity              | 171.8                               | 49.0%                              |
| Private Equity             | 27.2                                | 8.0%                               |
| Global Fixed Income        | 79.1                                | 22.0%                              |
| Liquidity                  | 11.8                                | 3.0%                               |
| Real Assets                | 38.1                                | 12.0%                              |
| Inflation Sensitive Assets | 20.8                                | 6.0%                               |
| Other                      | 3.1                                 | 0.0%                               |
| <b>Total Fund</b>          | <b>\$351.9</b>                      | <b>100.0%</b>                      |



## 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, 2018 (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. The portfolio has an expected volatility of 11.4 percent per year based on the most recent Asset Liability Modelling study. 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   | 8.6%   | 7.9%   | 5.7%    | 6.0%    | 8.3%    |
| Volatility   | -      | 6.9%   | 12.9%   | 11.1%   | 10.1%   |

## 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.

| Fiscal Year | Employer Normal Cost | Unfunded Rate | Unfunded Liability Payment (\$) |
|-------------|----------------------|---------------|---------------------------------|
| 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                       |
| 2018 - 19   | 9.228%               | N/A           | 3,138,208                       |
| 2019 - 20   | 9.652%               | N/A           | 3,611,753                       |
| 2020 - 21   | 10.411%              | N/A           | 3,957,901                       |

## 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 |
|----------------|-------------------|------------------------------|--------------------|--------------|------------------------|
| 06/30/11       | \$ 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             |
| 06/30/16       | 122,263,483       | 74,462,131                   | 47,801,352         | 60.9%        | 12,594,409             |
| 06/30/17       | 126,977,608       | 80,401,863                   | 46,575,745         | 63.3%        | 13,263,856             |
| 06/30/18       | 135,815,945       | 84,775,529                   | 51,040,416         | 62.4%        | 14,822,764             |

## Discount Rate Sensitivity

Shown below are various valuation results as of June 30, 2018 assuming alternate discount rates. Results are shown using the current discount rate of 7.0 percent as well as alternate discount rates of 6.0 percent and 8.0 percent. The rates of 6.0 percent and 8.0 percent were selected since they illustrate the impact of a 1 percent increase or decrease to the 7.0 percent assumption. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.0 percent or 8.0 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" at the end of this section.

| Sensitivity Analysis         |                    |                   |                            |               |
|------------------------------|--------------------|-------------------|----------------------------|---------------|
| As of June 30, 2018          | Plan's Normal Cost | Accrued Liability | Unfunded Accrued Liability | Funded Status |
| 7.0% (current discount rate) | 17.912%            | \$135,815,945     | \$51,040,416               | 62.4%         |
| 6.0%                         | 22.580%            | \$153,725,335     | \$68,949,806               | 55.1%         |
| 8.0%                         | 14.392%            | \$121,023,838     | \$36,248,309               | 70.0%         |

## Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2018 plan costs and funded ratio under two different longevity scenarios, namely assuming rates of mortality are 10 percent lower or 10 percent higher than our current mortality assumptions adopted in 2017. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long-term.

| As of June 30, 2018                       | Current Mortality | 10% Lower Mortality Rates | 10% Higher Mortality Rates |
|---|-------------------|---------------------------|----------------------------|
| a) Accrued Liability                      | \$135,815,945     | \$138,556,734             | \$133,290,580              |
| b) Market Value of Assets                 | \$84,775,529      | \$84,775,529              | \$84,775,529               |
| c) Unfunded Liability (Surplus) [(a)-(b)] | \$51,040,416      | \$53,781,205              | \$48,515,051               |
| d) Funded Status                          | 62.4%             | 61.2%                     | 63.6%                      |

A 10 percent increase (decrease) in assumed mortality rates over the long-term would result in approximately a 1.2 percentage point increase (decrease) to the funded ratio.

## Inflation Rate Sensitivity

The following analysis looks at the change in the June 30, 2018 plan costs and funded ratio under two different inflation rate scenarios, namely assuming the inflation rate is 1 percent lower or 1 percent higher than our current valuation inflation rate assumption of 2.50%, while holding the discount rate fixed at 7.0%. This type of analysis highlights the impact on the plan of increased or decreased inflation over the long-term.

| As of June 30, 2018                       | Current Inflation Rate | -1% Inflation Rate | +1% Inflation Rate |
|---|------------------------|--------------------|--------------------|
| a) Accrued Liability                      | \$135,815,945          | \$126,832,455      | \$142,480,589      |
| b) Market Value of Assets                 | \$84,775,529           | \$84,775,529       | \$84,775,529       |
| c) Unfunded Liability (Surplus) [(a)-(b)] | \$51,040,416           | \$42,056,926       | \$57,705,060       |
| d) Funded Status                          | 62.4%                  | 66.8%              | 59.5%              |

A decrease of 1 percent in the inflation rate assumption (2.50 percent to 1.50 percent) reduces the Accrued Liability by 6.6 percent. However, a 1 percent increase in the inflation rate (2.50 percent to 3.50 percent) increases the Accrued Liability by 4.9 percent.

## Amortization Schedule and Alternatives

| Date                     | <u>Current Amortization Schedule</u> |                   | <u>Alternate Schedules</u> |                   |                      |                   |
|--------------------------|--------------------------------------|-------------------|----------------------------|-------------------|----------------------|-------------------|
|                          | Balance                              | Payment           | 15 Year Amortization       |                   | 10 Year Amortization |                   |
|                          |                                      |                   | Balance                    | Payment           | Balance              | Payment           |
| 6/30/2020                | 51,585,340                           | 3,957,901         | 51,585,340                 | 4,652,673         | 51,585,340           | 6,360,455         |
| 6/30/2021                | 51,102,231                           | 4,342,648         | 50,383,551                 | 4,780,622         | 48,617,008           | 6,535,368         |
| 6/30/2022                | 50,187,317                           | 4,675,033         | 48,965,286                 | 4,912,089         | 45,259,961           | 6,715,090         |
| 6/30/2023                | 48,864,538                           | 4,877,680         | 47,311,751                 | 5,047,172         | 41,482,015           | 6,899,755         |
| 6/30/2024                | 47,239,543                           | 5,108,744         | 45,402,739                 | 5,185,969         | 37,248,593           | 7,089,499         |
| 6/30/2025                | 45,261,786                           | 4,718,229         | 43,216,523                 | 5,328,583         | 32,522,561           | 7,284,460         |
| 6/30/2026                | 43,549,535                           | 4,883,453         | 40,729,750                 | 5,475,119         | 27,264,036           | 7,484,783         |
| 6/30/2027                | 41,546,520                           | 5,017,748         | 37,917,326                 | 5,625,685         | 21,430,199           | 7,690,614         |
| 6/30/2028                | 39,264,377                           | 4,861,367         | 34,752,285                 | 5,780,391         | 14,975,080           | 7,902,106         |
| 6/30/2029                | 36,984,245                           | 4,995,058         | 31,205,662                 | 5,939,352         | 7,849,334            | 8,119,414         |
| 6/30/2030                | 34,406,214                           | 5,132,419         | 27,246,345                 | 6,102,684         |                      |                   |
| 6/30/2031                | 31,505,635                           | 4,602,142         | 22,840,924                 | 6,270,508         |                      |                   |
| 6/30/2032                | 28,950,538                           | 4,565,799         | 17,953,525                 | 6,442,947         |                      |                   |
| 6/30/2033                | 26,254,174                           | 4,246,129         | 12,545,636                 | 6,620,128         |                      |                   |
| 6/30/2034                | 23,699,734                           | 4,129,001         | 6,575,917                  | 6,802,181         |                      |                   |
| 6/30/2035                | 21,087,644                           | 3,948,110         |                            |                   |                      |                   |
| 6/30/2036                | 18,479,823                           | 3,606,834         |                            |                   |                      |                   |
| 6/30/2037                | 16,042,473                           | 3,430,373         |                            |                   |                      |                   |
| 6/30/2038                | 13,617,041                           | 3,241,481         |                            |                   |                      |                   |
| 6/30/2039                | 11,217,222                           | 3,110,514         |                            |                   |                      |                   |
| 6/30/2040                | 8,784,887                            | 3,031,849         |                            |                   |                      |                   |
| 6/30/2041                | 6,263,658                            | 2,295,692         |                            |                   |                      |                   |
| 6/30/2042                | 4,327,431                            | 2,218,596         |                            |                   |                      |                   |
| 6/30/2043                | 2,335,418                            | 1,983,250         |                            |                   |                      |                   |
| 6/30/2044                | 447,405                              | 462,799           |                            |                   |                      |                   |
| 6/30/2045                |                                      |                   |                            |                   |                      |                   |
| 6/30/2046                |                                      |                   |                            |                   |                      |                   |
| 6/30/2047                |                                      |                   |                            |                   |                      |                   |
| 6/30/2048                |                                      |                   |                            |                   |                      |                   |
| 6/30/2049                |                                      |                   |                            |                   |                      |                   |
| <b>Total</b>             |                                      | <b>97,442,849</b> |                            | <b>84,966,103</b> |                      | <b>72,081,544</b> |
| <b>Interest Paid</b>     |                                      | <b>45,857,509</b> |                            | <b>33,380,763</b> |                      | <b>20,496,204</b> |
| <b>Estimated Savings</b> |                                      |                   |                            | <b>12,476,746</b> |                      | <b>25,361,305</b> |

# CERBT Account Update as of April 30, 2020

Nevada Irrigation District

# OPEB cost report summary

| Valuations completed by Bartel Associates, LLC | 6/30/2015    | 6/30/2017    |
|--|--------------|--------------|
| Total OPEB Liability (TOL)                     | \$22,093,000 | \$24,095,000 |
| Present Value of Benefits (PVB)                | \$26,477,000 | \$29,842,000 |
|  | FY 2017-18   | FY 2018-19   |
| Actuarially Determined Contribution            | \$1,736,000  | \$1,895,000  |
| Pay-as-you-go                                  | \$1,216,000  | \$1,228,000  |
| Implicit Rate Subsidy                          | \$214,000    | \$170,000    |
| Total OPEB Plan Members                        | 366          | 365          |
| Asset Allocation Strategy                      | Strategy 1   | Strategy 1   |
| Discount Rate                                  | 7.25%        | 6.75%        |

# Employer controls the funding policy

- Decides if, when, and how much to contribute
  - Contributions are never required
- Decides if and when to seek reimbursement
  - Eligible to reimburse valid annual OPEB expenses
- Chooses CERBT asset allocation strategy option
- Determines independent consulting actuary
  - Maintains local control of actuarial assumptions

# CERBT Account Summary

## Account Summary as of April 30, 2020

|  |              |
|--|--------------|
| Initial contribution (12/30/2009)  | \$2,311,000  |
| Additional contributions   | \$8,931,235  |
| Disbursements  | (\$0)        |
| CERBT expenses   | (\$106,818)  |
| Investment earnings  | \$6,158,365  |
| Total assets   | \$17,293,782 |
| Money-weighted annualized net rate of return (12/30/2009 – 04/30/2020 = 10.34 Years) | 6.18%        |
| Strategy 1 time-weighted 10-year expected annualized rate of return (2018 CMAs)      | 5.85%        |

In PEMHCA: Yes  
 CERBT agreement effective date: 12/1/2009

# Cash Flow Summary by Fiscal Year

| Fiscal Year   | Contributions | Cumulative Net Contributions | Cumulative Investment Gains (Losses) | Cumulative Fees | Cumulative Ending Assets | Cumulative Net Rate of Return |
|---------------|---------------|------------------------------|--------------------------------------|-----------------|--------------------------|-------------------------------|
| 2009-10       | \$2,311,000   | \$2,311,000                  | (\$100,206)                          | (\$1,076)       | \$2,209,718              | -                             |
| 2010-11       | \$2,375,000   | \$4,686,000                  | \$523,542                            | (\$4,907)       | \$5,204,635              | 13.73%                        |
| 2011-12       | \$1,287,772   | \$5,973,772                  | \$531,260                            | (\$10,943)      | \$6,494,089              | 5.93%                         |
| 2012-13       | \$710,000     | \$6,683,772                  | \$1,391,589                          | (\$22,650)      | \$8,052,711              | 8.69%                         |
| 2013-14       | \$0           | \$6,683,772                  | \$2,881,708                          | (\$34,849)      | \$9,530,631              | 11.43%                        |
| 2014-15       | \$2,955,463   | \$9,639,235                  | \$2,907,252                          | (\$45,486)      | \$12,501,001             | 8.52%                         |
| 2015-16       | \$0           | \$9,639,235                  | \$3,034,840                          | (\$55,790)      | \$12,618,284             | 6.83%                         |
| 2016-17       | \$646,000     | \$10,285,235                 | \$4,376,312                          | (\$67,067)      | \$14,594,480             | 7.43%                         |
| 2017-18       | \$490,000     | \$10,775,235                 | \$5,539,964                          | (\$80,228)      | \$16,234,971             | 7.52%                         |
| 2018-19       | \$467,000     | \$11,242,235                 | \$6,565,824                          | (\$94,091)      | \$17,713,968             | 7.40%                         |
| as of 4/30/20 | \$0           | \$11,242,235                 | \$6,158,365                          | (\$106,818)     | \$17,293,782             | 6.18%                         |

# Funded Status Comparison

| Measurement Date | Total OPEB Liability | CERBT Assets | Funded Status |
|------------------|----------------------|--------------|---------------|
| 12/31/2008       | \$16,774,000         | \$0          | 0%            |
| 06/30/2011       | \$22,691,000         | \$5,204,635  | 23%           |
| 06/30/2012       | \$22,346,000         | \$5,206,000  | 23%           |
| 06/30/2013       | \$23,637,000         | \$8,063,000  | 34%           |
| 06/30/2015       | \$22,093,000         | \$11,501,000 | 52%           |
| 06/30/2017       | \$24,095,000         | \$14,721,000 | 61%           |

# CERBT Asset Class Target Allocations

| Asset Classification                           | Benchmark                                   | Strategy 1 | Strategy 2 | Strategy 3 |
|--|---|------------|------------|------------|
| Global Equity                                  | MSCI All Country World Index                | 59%<br>±5% | 40%<br>±5% | 22%<br>±5% |
| Fixed Income                                   | Barclays Capital Long Liability Index       | 25%<br>±5% | 43%<br>±5% | 49%<br>±5% |
| Global Real Estate (REITs)                     | FTSE EPRA/NAREIT Developed Liquid Index     | 8%<br>±5%  | 8%<br>±5%  | 8%<br>±5%  |
| Treasury Inflation Protected Securities (TIPS) | Barclays Capital Global Real: US TIPS Index | 5%<br>±3%  | 5%<br>±3%  | 16%<br>±3% |
| Commodities                                    | S&P GSCI Total Return Index                 | 3%<br>±3%  | 4%<br>±3%  | 5%<br>±3%  |
| Cash   | 3-Month Treasury Bill                       | 0%<br>+2%  | 0%<br>+2%  | 0%<br>+2%  |

# CERBT Investment Returns – Time Weighted

Periods Ended March 31, 2020

| Fund  | Assets          | 1 Month | 3 Months | FYTD   | 1 Year | 3 Years | 5 Years | 10 Years | ITD   |
|---|-----------------|---------|----------|--------|--------|---------|---------|----------|-------|
| CERBT Strategy 1<br>(Inception June 1, 2007)    | \$8,052,982,542 | -10.81% | -15.14%  | -9.22% | -6.27% | 2.42%   | 2.89%   | 5.91%    | 3.84% |
| Benchmark                                       |                 | -10.90% | -15.27%  | -9.47% | -6.48% | 2.11%   | 2.49%   | 5.67%    | 3.41% |
| CERBT Strategy 2<br>(Inception October 1, 2011) | \$1,276,969,987 | -8.46%  | -10.40%  | -5.11% | -1.92% | 3.49%   | 3.26%   | NA       | 6.12% |
| Benchmark                                       |                 | -8.44%  | -10.41%  | -5.22% | -1.95% | 3.23%   | 2.92%   | NA       | 5.83% |
| CERBT Strategy 3<br>(Inception January 1, 2012) | \$633,145,135   | -6.45%  | -6.30%   | -1.87% | 1.39%  | 3.94%   | 3.26%   | NA       | 4.95% |
| Benchmark                                       |                 | -6.39%  | -6.27%   | -1.91% | 1.40%  | 3.75%   | 2.99%   | NA       | 4.64% |

Time weighted return reports the performance of the investment vehicle, not of the employer assets. Returns are gross. Historical performance is not necessarily indicative of actual future investment performance or of future total program cost. Current and future performance may be lower or higher than the historical performance data reported here. Investment return and principal value may fluctuate so that your investment, when redeemed, may be worth more or less than the original cost. The value of an employer's CERBT fund shares will go up and down based on the performance of the underlying funds in which the assets are invested. The value of the underlying funds' assets will, in turn, fluctuate based on the performance and other factors generally affecting the securities market.

# Employer Controls the OPEB Funding Policy

- Chooses appropriate investment strategy
  - Based on investment time horizon
- Decides if, when, and how much to contribute
  - Voluntary and never required
- Decides if and when to seek reimbursement
  - Pay-go costs; implicit rate subsidies
- Chooses outside consulting actuary

# Submission of Renewal OPEB Cost Report

- To comply with GASB 74, the CERBT requires that employers submit an OPEB cost report at least biennially.
- Documents Required for OPEB Cost Report Renewal:
  - Actuarial Valuation Report (AMM Report)
  - Summary of Actuarial Information
  - Certification of Actuarial Information (Affirmation of OPEB Cost Analysis Report)
  - Certification of Funding Policy
- Please submit the renewal OPEB documents by June 30, 2020
- Submit documents to [CERBT4U@calpers.ca.gov](mailto:CERBT4U@calpers.ca.gov)

# CERBT Total Participation Cost Fee Rate

- Total *all-inclusive* cost of CERBT participation is 10 basis points of assets under management
  - CERBT is a self-funded trust
  - CERBT does not profit
  - Employer account charged daily
  - Rate can be changed without prior notice and may be higher or lower in the future

# CERBT Fee Rate History

| Fiscal Year | Total Participation Cost |
|-------------|--------------------------|
| 2007-2008   | 2.00 basis points        |
| 2008-2009   | 6.00 basis points        |
| 2009-2010   | 9.00 basis points        |
| 2010-2011   | 12.00 basis points       |
| 2011-2012   | 12.00 basis points       |
| 2012-2013   | 15.00 basis points       |
| 2013-2014   | 14.00 basis points       |
| 2014-2015   | 10.00 basis points       |
| 2015-2016   | 10.00 basis points       |
| 2016-2017   | 10.00 basis points       |
| 2017-2018   | 10.00 basis points       |
| 2018-2019   | 10.00 basis points       |
| 2019-2020   | 10.00 basis points       |

# CERBT Employers

570 Total

- State of California
- 148 Cities or Towns
- 12 Counties
- 70 School Employers
- 27 Courts
- 311 Special Districts and other Public Agencies
  - (97 Water, 34 Sanitation, 31 Fire, 24 Transportation)



**B**ARTEL  
ASSOCIATES, LLC

**NEVADA IRRIGATION DISTRICT  
RETIREE HEALTHCARE PLAN**

**June 30, 2017 Actuarial Valuation  
Plan Funding for Fiscal Years 2018 and 2019**

**Doug Pryor, Vice President**  
Tina Liu, Associate Actuary  
Katherine Moore, Associate Actuary  
**Bartel Associates, LLC**

July 12, 2018

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**DATA SUMMARY**

**Actives**

|                    | 12/31/08  | 6/30/11   | 6/30/12 <sup>6</sup> | 6/30/13  | 6/30/15   | 6/30/17   |
|--------------------|-----------|-----------|----------------------|----------|-----------|-----------|
| ■ Counts           |           |           |                      |          |           |           |
| • Water            | 152       | 145       | 138                  | 138      | 159       | 162       |
| • Hydro            | 16        | 15        | 17                   | 17       | 19        | 24        |
| • Recreation       | <u>1</u>  | <u>4</u>  | <u>4</u>             | <u>4</u> | <u>6</u>  | <u>7</u>  |
| • Total            | 169       | 164       | 159                  | 159      | 184       | 193       |
| ■ Averages         |           |           |                      |          |           |           |
| • Age              | 46.1      | 45.0      | 43.5                 | 44.5     | 42.8      | 44.1      |
| • District Service | 12.4      | 11.9      | 10.1                 | 11.1     | 8.5       | 8.8       |
| • CalPERS          | n/a       | n/a       | 10.8                 | 11.8     | 9.1       | 9.7       |
| • Payroll          | \$ 60,100 | \$ 59,400 | \$ 58,900            | n/a      | \$ 60,600 | \$ 66,700 |
| ■ Total Payroll    | 10,164    | 9,734     | 9,362                | n/a      | 11,151    | 12,876    |

<sup>6</sup> Based on 6/30/13 valuation data.



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**DATA SUMMARY**

**Retirees<sup>7</sup>**

|                          | 12/31/08 | 6/30/11  | 6/30/12 <sup>8</sup> | 6/30/13  | 6/30/15  | 6/30/17  |
|--------------------------|----------|----------|----------------------|----------|----------|----------|
| ■ Retirees               |          |          |                      |          |          |          |
| • Water                  | 98       | 118      | 134                  | 134      | 144      | 151      |
| • Hydro                  | 12       | 16       | 16                   | 16       | 21       | 20       |
| • Recreation             | <u>-</u> | <u>-</u> | <u>-</u>             | <u>-</u> | <u>-</u> | <u>1</u> |
| • Total                  | 110      | 134      | 150                  | 150      | 165      | 172      |
| ■ Averages               |          |          |                      |          |          |          |
| • Age                    | 69.8     | 69.4     | 68.2                 | 69.2     | 69.1     | 69.9     |
| • Service Retirement Age |          |          |                      |          |          |          |
| ➤ Water                  | 59.7     | 58.5     | 58.9                 | 58.9     | 58.6     | 58.4     |
| ➤ Hydro                  | 56.2     | 56.9     | 57.8                 | 57.8     | 57.8     | 57.8     |
| ➤ Recreation             | n/a      | n/a      | n/a                  | n/a      | n/a      | 61.0     |

<sup>7</sup> Excluded waived participants.

<sup>8</sup> Based on 6/30/13 valuation data.



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**ACTUARIAL ASSUMPTIONS HIGHLIGHTS**

| <b>Assumption</b>                   | <b>June 30, 2015 Valuation</b>  | <b>June 30, 2017 Valuation</b>  |
|-------------------------------------|---|---|
| ■ Valuation Date                    | <ul style="list-style-type: none"> <li>• June 30, 2015</li> <li>➤ 2016 &amp; 2017</li> </ul>  | <ul style="list-style-type: none"> <li>• June 30, 2017</li> <li>➤ 2018 &amp; 2019</li> </ul>  |
| ■ Funding Policy                    | <ul style="list-style-type: none"> <li>• 100% full ARC contributed (net of pay go costs)</li> </ul>   | <ul style="list-style-type: none"> <li>• Same</li> </ul>  |
| ■ Discount Rate                     | <ul style="list-style-type: none"> <li>• 7.25% - Pre-funded with CERBT Strategy 1, CalPERS OPEB Trust</li> </ul>  | <ul style="list-style-type: none"> <li>• 6.75% - Pre-funded with CERBT Strategy 1, CalPERS OPEB Trust</li> </ul>  |
| ■ General Inflation                 | <ul style="list-style-type: none"> <li>• 3.00%</li> </ul>   | <ul style="list-style-type: none"> <li>• 2.75%</li> </ul>   |
| ■ Payroll Increase                  | <ul style="list-style-type: none"> <li>• Aggregate Increases – 3.25%</li> <li>• Merit Increases – CalPERS 1997-2011 Experience Study</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Aggregate Increases – 3.00%</li> <li>• Merit Increases – CalPERS 1997-2015 Experience Study</li> </ul>                             |
| ■ Mortality, Withdrawal, Disability | <ul style="list-style-type: none"> <li>• CalPERS 1997 – 2011 Experience Study</li> <li>• Mortality improvement projection Scale MP-2014 with 15 year convergence in 2022</li> </ul> | <ul style="list-style-type: none"> <li>• CalPERS 1997 – 2015 Experience Study</li> <li>• Post-retirement mortality projected fully generational with Scale MP-17</li> </ul> |



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**ACTUARIAL ASSUMPTIONS HIGHLIGHTS**

| <b>Assumption</b>  | <b>June 30, 2015 Valuation</b> |                      |                 | <b>June 30, 2017 Valuation</b> |                                 |       |
|--------------------|--------------------------------|----------------------|-----------------|--------------------------------|---------------------------------|-------|
| ■ Healthcare Trend | <u>Year</u>                    | <u>Non-Medicare</u>  | <u>Medicare</u> | <u>Year</u>                    | <u>Increase from Prior Year</u> |       |
|                    | 2015                           | actual 2015 premiums |                 | 2017                           | Actual Premiums                 |       |
|                    | 2016                           | actual 2016 premiums |                 | 2018                           | Actual Premiums                 |       |
|                    | 2017                           | actual 2017 premiums |                 | 2019                           | 7.50%                           | 6.50% |
|                    | 2018                           | 6.5%                 | 6.7%            | 2020                           | 7.50%                           | 6.50% |
|                    | 2019                           | 6.0%                 | 6.1%            | 2021                           | 7.25%                           | 6.30% |
|                    | 2020                           | 5.5%                 | 5.6%            | 2022                           | 7.00%                           | 6.10% |
|                    | 2021+                          | 5.0%                 | 5.0%            | 2023                           | 6.75%                           | 5.90% |
|                    |                                |                      |                 | 2024                           | 6.50%                           | 5.70% |
|                    |                                |                      |                 | 2025                           | 6.25%                           | 5.50% |
|                    |                                |                      |                 | 2026                           | 6.00%                           | 5.30% |
|                    |                                |                      |                 | 2027                           | 5.80%                           | 5.15% |
|                    |                                |                      |                 | 2028                           | 5.60%                           | 5.00% |
|                    |                                |                      |                 | 2029                           | 5.40%                           | 4.85% |
|                    |                                |                      |                 | 2030                           | 5.20%                           | 4.70% |
|                    |                                |                      | 2031-2035       | 5.05%                          | 4.60%                           |       |
|                    |                                |                      | 2036-2045       | 4.90%                          | 4.50%                           |       |
|                    |                                |                      | 2046-2055       | 4.75%                          | 4.45%                           |       |
|                    |                                |                      | 2056-2065       | 4.60%                          | 4.40%                           |       |
|                    |                                |                      | 2066-2075       | 4.30%                          | 4.20%                           |       |
|                    |                                |                      | 2076+           | 4.00%                          | 4.00%                           |       |



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**ASSETS**

**Market Value of Plan Assets**

(Amounts in 000's)

|   | 2009/10      | 2010/11    | 2011/12  | 2012/13    | 2013/14      | 2014/15   | 2015/16    | 2016/17      |
|---|--------------|------------|----------|------------|--------------|-----------|------------|--------------|
| ■ <b>Market Value (beginning of year)</b> | \$ -         | \$ 2,210   | \$ 5,205 | \$ 5,206   | \$ 8,053     | \$ 9,531  | \$ 11,501  | \$ 12,618    |
| ● Contributions <sup>9</sup>              | 2,311        | 2,375      | -        | 1,998      | -            | 1,955     | 1,000      | 646          |
| ● Benefit Payments                        | -            | -          | -        | -          | -            | -         | -          | -            |
| ● Expenses                                | (1)          | (4)        | (6)      | (12)       | (12)         | (11)      | (10)       | (11)         |
| ● Investment Earnings                     | <u>(100)</u> | <u>624</u> | <u>8</u> | <u>860</u> | <u>1,490</u> | <u>26</u> | <u>127</u> | <u>1,341</u> |
| ■ <b>Market Value (end of year)</b>       | 2,210        | 5,205      | 5,206    | 8,053      | 9,531        | 11,501    | 12,618     | 14,594       |
| ■ <b>Approx. Return</b>                   | -8.8%        | 22.9%      | 0.0%     | 16.3%      | 18.4%        | 0.1%      | 0.9%       | 10.5%        |

<sup>9</sup> \$2.311 million December 2009

1.001 million December 2010, 1.374 million June 2011

1.998 million July 2012, 0.910 million October 2014, 1.046 million January 2015

1.000 million July 2015, 0.646 million May 2017



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**ASSETS**

**Actuarial Value of Plan Assets**

(Amounts in 000's)

|  | 2009/10   | 2010/11    | 2011/12    | 2012/13    | 2013/14    | 2014/15    | 2015/16    | 2016/17    |
|--|-----------|------------|------------|------------|------------|------------|------------|------------|
| ■ <b>Actuarial Value (beginning of year)</b> | \$ -      | \$ 2,362   | \$ 5,008   | \$ 5,338   | \$ 7,905   | \$ 8,689   | \$ 11,384  | \$ 13,149  |
| ● Contribution                               | 2,311     | 2,375      | -          | 1,998      | -          | 1,955      | 1,000      | 646        |
| ● Benefit Payments                           | -         | -          | -          | -          | -          | -          | -          | -          |
| ● Credited Return                            | <u>51</u> | <u>271</u> | <u>330</u> | <u>569</u> | <u>784</u> | <u>740</u> | <u>765</u> | <u>926</u> |
| ■ <b>AVA (end of year)</b>                   | 2,362     | 5,008      | 5,338      | 7,905      | 8,689      | 11,384     | 13,149     | 14,721     |
| ■ <b>Approx. Return</b>                      | 4.4%      | 9.5%       | 6.6%       | 7.8%       | 9.9%       | 7.5%       | 6.2%       | 7.0%       |



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## RESULTS

### Funded Status (Amounts in 000's)

|                                      | 6/30/2015     | 6/30/2017     |
|--------------------------------------|---------------|---------------|
| <b>■ Present Value of Benefits</b>   |               |               |
| • Actives                            | \$ 11,113     | \$ 13,461     |
| • Retirees                           | <u>15,364</u> | <u>16,381</u> |
| • Total                              | 26,477        | 29,842        |
| <b>■ Actuarial Accrued Liability</b> |               |               |
| • Actives                            | 6,729         | 7,714         |
| • Retirees                           | <u>15,364</u> | <u>16,381</u> |
| • Total                              | 22,093        | 24,095        |
| <b>■ Actuarial Value of Assets</b>   | <u>11,384</u> | <u>14,721</u> |
| <b>■ Unfunded Liability</b>          | 10,709        | 9,374         |
| <b>■ Service Cost<sup>10</sup></b>   | 547           | 659           |
| <b>■ Pay-Go Cost</b>                 | 1,406         | 1,398         |

<sup>10</sup> Includes estimated expenses of \$12,000 for 2018.



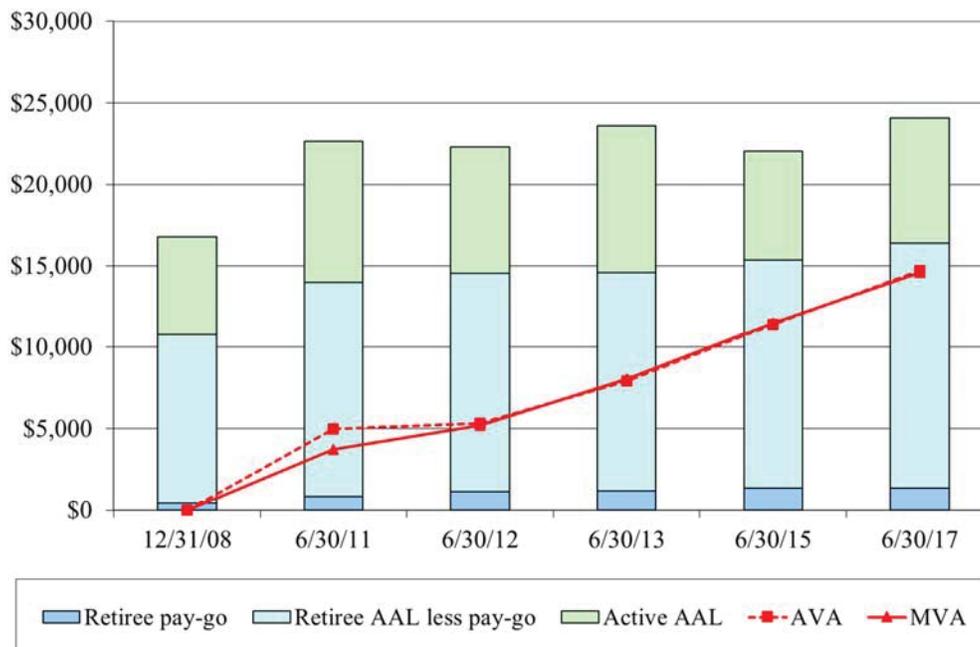
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## RESULTS

### Funded Status (Amounts in 000's)



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## RESULTS

### Amortization Bases

(Amounts in 000's)

|                                    | 6/30/2015 Val |              | 6/30/2017 Val |                            |
|------------------------------------|---------------|--------------|---------------|----------------------------|
|                                    | 12/31/15      | 12/31/16     | 12/31/17      | 12/31/18                   |
| ■ <b>Initial UAAL</b>              | \$ 13,945     | \$ 13,433    | \$ 12,834     | \$ 12,100                  |
| ■ <b>(Gain)/Loss</b>               |               |              |               |                            |
| • 6/30/11 Val                      | 1,990         | 1,917        | 1,831         | 1,726                      |
| • 6/30/12 Val                      | (766)         | (732)        | (693)         | (645)                      |
| • 6/30/13 Val                      | (43)          | (42)         | (41)          | (39)                       |
| • 6/30/15 Val                      | (4,822)       | (4,728)      | (4,613)       | (4,459)                    |
| • 6/30/17 Val                      | n/a           | n/a          | 448           | 438                        |
| ■ <b>Contribution &gt; ARC/ADC</b> | <u>(539)</u>  | <u>(519)</u> | <u>(611)</u>  | <u>(863)</u> <sup>13</sup> |
| ■ <b>Total</b>                     | 9,763         | 9,328        | 9,157         | 8,259                      |

<sup>13</sup> Reflects \$777,000 budgeted contributions assumed to be made on December 31, 2018.



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## RESULTS

### Amortization Payments

(Amounts in 000's)

|                                    | 6/30/2015 Val |             | 6/30/2017 Val |                            |
|------------------------------------|---------------|-------------|---------------|----------------------------|
|                                    | 2016          | 2017        | 2018          | 2019                       |
| ■ <b>Initial UAAL</b>              | \$ 1,523      | \$ 1,572    | \$ 1,601      | \$ 1,649                   |
| ■ <b>(Gain)/Loss</b>               |               |             |               |                            |
| • 6/30/11 Val                      | 217           | 224         | 228           | 235                        |
| • 6/30/12 Val                      | (90)          | (93)        | (94)          | (97)                       |
| • 6/30/13 Val                      | (4)           | (5)         | (5)           | (5)                        |
| • 6/30/15 Val                      | (444)         | (458)       | (465)         | (479)                      |
| • 6/30/17 Val                      | n/a           | n/a         | 41            | 42                         |
| ■ <b>Contribution &gt; ARC/ADC</b> | <u>(59)</u>   | <u>(61)</u> | <u>(76)</u>   | <u>(118)</u> <sup>14</sup> |
| ■ <b>Total</b>                     | 1,143         | 1,180       | 1,229         | 1,227                      |
| ■ <b>Amortization Years</b>        | 11.0          | 10.0        | 9.2           | 8.1                        |

<sup>14</sup> Reflects \$777,000 budgeted contributions assumed to be made on December 31, 2018.



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## RESULTS

### Projection (Amounts in 000's)

| Fiscal Year | Contribution      |                              |                        | Total Contrib | Payroll   | Contr. % of Payroll |
|-------------|-------------------|------------------------------|------------------------|---------------|-----------|---------------------|
|             | Cash Benefit Pmts | Implied Subsidy Benefit Pmts | Pre-Fund <sup>15</sup> |               |           |                     |
| 2018        | \$ 1,228          | \$ 170                       | \$ 777                 | \$ 2,175      | \$ 13,460 | 16.2%               |
| 2019        | 1,254             | 174                          | 467                    | 1,895         | 13,864    | 13.7%               |
| 2020        | 1,301             | 182                          | 460                    | 1,943         | 14,279    | 13.6%               |
| 2021        | 1,341             | 183                          | 467                    | 1,991         | 14,708    | 13.5%               |
| 2022        | 1,399             | 212                          | 430                    | 2,041         | 15,149    | 13.5%               |
| 2023        | 1,445             | 219                          | 430                    | 2,094         | 15,604    | 13.4%               |
| 2024        | 1,471             | 205                          | 471                    | 2,147         | 16,072    | 13.4%               |
| 2025        | 1,512             | 206                          | 483                    | 2,201         | 16,554    | 13.3%               |
| 2026        | 1,555             | 197                          | 506                    | 2,258         | 17,050    | 13.2%               |
| 2027        | 1,619             | 214                          | 605                    | 2,438         | 17,562    | 13.9%               |

<sup>15</sup> Reflects \$777,000 budgeted contributions assumed to be made on December 31, 2018.



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## RESULTS

### Funded Status<sup>16</sup> **June 30, 2017** (Amounts in 000's)

|   | Water         | Hydro        | Recreation | Total         |
|---|---------------|--------------|------------|---------------|
| <b>■ Present Value of Benefits</b>      |               |              |            |               |
| • Actives                               | \$ 11,120     | \$ 1,937     | \$ 404     | \$ 13,461     |
| • Retirees                              | <u>14,337</u> | <u>1,897</u> | <u>147</u> | <u>16,381</u> |
| • Total                                 | 25,457        | 3,834        | 551        | 29,842        |
| <b>■ Actuarial Accrued Liability</b>    |               |              |            |               |
| • Actives                               | 6,368         | 1,115        | 231        | 7,714         |
| • Retirees                              | <u>14,337</u> | <u>1,897</u> | <u>147</u> | <u>16,381</u> |
| • Total                                 | 20,705        | 3,012        | 378        | 24,095        |
| <b>■ Actuarial Value of Assets</b>      | <u>12,650</u> | <u>1,840</u> | <u>231</u> | <u>14,721</u> |
| <b>■ Unfunded Liability</b>             | 8,055         | 1,172        | 147        | 9,374         |
| <b>■ 2018 Service Cost<sup>17</sup></b> | 548           | 89           | 22         | 659           |
| <b>■ 2018 Pay-Go Cost</b>               | 1,234         | 147          | 17         | 1,398         |

<sup>16</sup> Assets allocated based on AAL.

<sup>17</sup> Includes estimated expenses of \$12,000.



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**RESULTS**

**2018 Actuarially Determined Contribution (ADC)**

(Amounts in 000's)

|  | <b>Water</b> | <b>Hydro</b> | <b>Recreation</b> | <b>Total</b> |
|--|--------------|--------------|-------------------|--------------|
| <b>■ ADC - \$</b>                              |              |              |                   |              |
| • Service Cost <sup>18</sup>                   | \$ 548       | \$ 89        | \$ 22             | \$ 659       |
| • UAAL Amortization                            | <u>1,055</u> | <u>154</u>   | <u>20</u>         | <u>1,229</u> |
| • Total  | 1,603        | 243          | 42                | 1,888        |
| <b>■ Pay-Go Cost</b>                           | 1,234        | 147          | 17                | 1,398        |
| <b>■ Pre-Funding</b><br>(ADC less Pay-Go Cost) | 369          | 96           | 25                | 490          |

<sup>18</sup> Includes estimated expenses of \$12,000.



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**RESULTS**

**2019 Actuarially Determined Contribution (ADC)**

(Amounts in 000's)

|  | <b>Water</b> | <b>Hydro</b> | <b>Recreation</b> | <b>Total</b> |
|--|--------------|--------------|-------------------|--------------|
| <b>■ ADC - \$</b>                              |              |              |                   |              |
| • Service Cost <sup>19</sup>                   | \$ 556       | \$ 90        | \$ 22             | \$ 668       |
| • UAAL Amortization <sup>20</sup>              | <u>1,053</u> | <u>154</u>   | <u>20</u>         | <u>1,227</u> |
| • Total  | 1,609        | 244          | 42                | 1,895        |
| <b>■ Pay-Go Cost</b>                           | 1,267        | 145          | 16                | 1,428        |
| <b>■ Pre-Funding</b><br>(ADC less Pay-Go Cost) | 342          | 99           | 26                | 467          |

<sup>19</sup> Includes estimated expenses of \$12,000.

<sup>20</sup> Reflects \$777,000 budgeted contributions assumed to be made on December 31, 2018.



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