

Los Angeles Department of Water and Power (LADWP)

Governmental Accounting Standards (GAS) 68

Actuarial Valuation Based on June 30, 2019
Measurement Date for Employer Reporting as of
June 30, 2020



This report has been prepared at the request of the LADWP to assist in preparing their financial report for their liabilities associated with the retirement plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the LADWP and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.



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September 22, 2020

*Ms. Ann Santilli
Chief Financial Officer
Department of Water and Power – City of Los Angeles
111 North Hope Street, Room 450
Los Angeles, CA 90012*

Dear Ann:

We are pleased to submit this Governmental Accounting Standards (GAS) 68 Actuarial Valuation based on a June 30, 2019 measurement date for employer reporting as of June 30, 2020. It contains various information that will need to be disclosed in order for Los Angeles Department of Water and Power (LADWP) employers to comply with GAS 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the LADWP to assist the sponsors in preparing their financial report for the Water and Power Employees' Retirement Plan of the City of Los Angeles (WPERP). The census and financial information on which our calculations were based was provided by the Retirement Office. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Eva Yum, FSA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the WPERP.

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

Sincerely,

Segal

By:

A handwritten signature in black ink, appearing to read "Paul Angelo", written over a horizontal line.

*Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary*

A handwritten signature in black ink, appearing to read "Eva Yum", written over a horizontal line.

*Eva Yum, FSA, MAAA, EA
Senior Actuary*

JAC/jl

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Purpose

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standard (GAS) 68 for employer reporting as of June 30, 2020. The results used in preparing this GAS 68 report are comparable to those used in preparing the Governmental Accounting Standard (GAS) 67 report for the WPERP based on a reporting date and a measurement date as of June 30, 2019. This valuation is based on:

- The benefit provisions of the WPERP, as administered by the Retirement Office;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of March 31, 2019, provided by the Retirement Office;
- The assets of the WPERP as of June 30, 2019, provided by the Retirement Office;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the July 1, 2019 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the July 1, 2019 valuation.

General Observations on GAS 68 Actuarial Valuation

The following points should be considered when reviewing this GAS 68 report:

- The Government Accounting Standard Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as WPERP uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as WPERP's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the measurement date.

SECTION 1: Valuation Summary for Los Angeles Department of Water and Power

- For this report, the reporting dates for the employer are June 30, 2020 and June 30, 2019. The NPL was measured as of June 30, 2019 and June 30, 2018, respectively, and determined based upon the results of the actuarial valuations as of July 1, 2019 and July 1, 2018, respectively. The Plan's Fiduciary Net Position (plan assets) and the TPL were valued as of the measurement dates. Consistent with the provisions of GAS 68, the assets and liabilities measured as of June 30, 2019 and June 30, 2018 are not adjusted or rolled forward to the June 30, 2020 and June 30, 2019 reporting dates, respectively.

Significant Issues in Valuation Year

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

- The results of this valuation reflect changes in the economic and demographic assumptions as recommended by Segal and adopted by the Board for the July 1, 2019 valuation. These changes were documented in our Actuarial Experience Study dated June 12, 2019.
- The NPL decreased from \$910.5 million as of June 30, 2018 to \$824.9 million as of June 30, 2019 primarily due to the employer's contributions amortizing a portion of the unfunded actuarial accrued liability (UAAL) which results in a reduction of the NPL. The reduction is partially offset by the unfavorable investment return during the year ending June 30, 2019 (6.47% return which was lower than the assumed return of 7.25%) and assumption changes. Changes in these values during the last two fiscal years ending June 30, 2019 and June 30, 2018 can be found in Exhibit 5 in Section 2.
- The discount rate used to measure the TPL and NPL as of June 30, 2019 and 2018 was 7.00% and 7.25%, respectively, following the same assumptions used by the WPERP in the funding valuations as of July 1, 2019 and July 1, 2018. The detailed calculations used in the derivation of the discount rate can be found in Appendices A and B of Section 3. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 13 in Section 2.
- There was an increase in the total employer pension expense from \$173.0 million calculated last year to \$322.7 million calculated this year. The primary cause of the increase was due to the full recognition of the remaining \$152.5 million in credit from an asset gain that was identified in the June 30, 2014 valuation in developing last year's pension expense.
- The NPL has been allocated based on the projected compensation for each entity for the year following the measurement date. LADWP provided us with information that indicates each member's percentage under Water versus Power and we used these percentages to determine each member's allocation between these two entities. The NPL allocation can be found in Exhibit 7 in Section 2.

SECTION 1: Valuation Summary for Los Angeles Department of Water and Power

- Results shown in this report exclude any employer contributions made after the measurement date of June 30, 2019. The LADWP should consult with their auditors to determine the deferred outflow that should be created for these contributions.
- The Coronavirus (COVID-19) pandemic is rapidly evolving and is having a significant impact on the US economy in 2020, including most retirement plans, and will likely continue to have an impact in the future. Our results do not include the impact of the following:
 - Changes in the market value of plan assets since June 30, 2019
 - Changes in interest rates since June 30, 2019
 - Short-term or long-term impacts on mortality of the covered population
 - The potential for federal or state fiscal relief

Each of the above factors could significantly impact these results. The above factors generally will not have an impact on the June 30, 2019 valuation, since that is based on a snapshot of assets and liabilities prior to recent events. Given the high level of uncertainty and fluidity of the current events, you may wish to consider updated estimates to monitor the plan's financial status. We will keep you updated on emerging developments.

SECTION 1: Valuation Summary for Los Angeles Department of Water and Power

Summary of Key Valuation Results

| Reporting Date for Employer under GAS 68 | 6/30/2020 ⁽¹⁾ | 6/30/2019 ⁽¹⁾ |
|--|--|--|
| Measurement Date for Employer under GAS 68 | 6/30/2019 | 6/30/2018 |
| Disclosure elements for fiscal year ending June 30: | | |
| 1. Service cost ⁽²⁾ | \$243,262,953 | \$228,621,066 |
| 2. Total Pension Liability | 13,811,956,483 | 13,187,542,730 |
| 3. Plan's Fiduciary Net Position | 12,987,087,001 | 12,277,085,263 |
| 4. Net Pension Liability (2) – (3) | 824,869,482 | 910,457,467 |
| 5. Pension expense | 322,749,874 | 172,995,196 |
| Schedule of contributions for fiscal year ending June 30: | | |
| 6. Actuarially determined contributions ⁽³⁾ | \$408,750,192 | \$425,512,236 |
| 7. Actual contributions | 410,165,124 | 433,412,569 |
| 8. Contribution deficiency (excess) (6) – (7) | -1,414,932 | -7,900,333 |
| Demographic data for plan year ending June 30: | | |
| 9. Number of retired members and beneficiaries | 9,315 | 9,165 |
| 10. Number of vested terminated members ⁽⁴⁾ | 1,663 | 1,728 |
| 11. Number of active members | 10,362 | 10,114 |
| Key assumptions as of June 30: | | |
| 12. Investment rate of return | 7.00% | 7.25% |
| 13. Inflation rate | 2.75% | 3.00% |
| 14. Projected salary increases ⁽⁵⁾ | 4.50% to 10.25%, varying by service, including inflation | 4.50% to 10.00%, varying by service, including inflation |

⁽¹⁾ The reporting dates and measurement dates for the plan are June 30, 2019 and 2018, respectively.

⁽²⁾ The service cost is always based on the previous year's valuation, meaning the June 30, 2019 and June 30, 2018 values are based on the valuations as of July 1, 2018 and July 1, 2017, respectively.

⁽³⁾ Based on actual covered payroll reported by the Retirement Office.

⁽⁴⁾ Includes terminated members due a refund of member contributions and members receiving PTD benefits.

⁽⁵⁾ Includes inflation at 2.75% and 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service as of June 30, 2019 and 2018, respectively.

SECTION 1: Valuation Summary for Los Angeles Department of Water and Power

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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

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

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

- The valuation is prepared at the request of the LADWP to assist in preparing items related to the retirement plan in their financial report. Segal is not responsible for the use or misuse of its report, particularly by any other party.

SECTION 1: Valuation Summary for Los Angeles Department of Water and Power

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

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

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 1

General Information – “Financial Statements”, Note Disclosures and Required Supplementary Information for a Single-Employer Pension Plan

Plan Description

Plan administration. The Water and Power Employees’ Retirement Plan of the City of Los Angeles (WPERP) was established by the Los Angeles Department of Water and Power in 1938. WPERP is a single employer public employee retirement system whose main function is to provide retirement benefits to employees of the Los Angeles Department of Water and Power.

Under the provisions of the City Charter, the Board of Administration (the "Board") has the responsibility and authority to administer the Plan and to invest its assets. The Board members serve as trustees and must act in the exclusive interest of the Plan's members and beneficiaries. The Board has seven members: one member of the Board of Water and Power Commissioners, the General Manager, the Chief Accounting Employee, three employee members who are elected for three-year terms by active members of the Plan, and one retiree who is appointed by the Board of Water and Power Commissioners for a three-year term.

Plan membership. At June 30, 2019, pension plan membership consisted of the following:

| | |
|--|---------------|
| Retired members or beneficiaries currently receiving benefits | 9,315 |
| Vested terminated members entitled to, but not yet receiving benefits ⁽¹⁾ | 1,663 |
| Active members | <u>10,362</u> |
| Total | 21,340 |

⁽¹⁾ Includes terminated members due a refund of member contributions and members receiving PTD benefits.

Benefits provided. WPERP provides service retirement, disability, death and survivor benefits to eligible employees. Most employees of the LADWP become members of WPERP effective on the first day of biweekly payroll following employment. Members employed prior to January 1, 2014 are designated as Tier 1 and those hired on or after January 1, 2014 are designated as Tier 2 (unless a specific exemption applies to employee providing a right to Tier 1 status).

Tier 1 members are eligible to retire once they attain the age of 60 with 5 or more years of Department service or at age 55 with 10 or more years of Department service acquired in the last 12 years prior to retirement. A Tier 1 member with 30 years of Department service is eligible to retire regardless of age. Tier 2 members are eligible to retire once they attain the age of 60 with 5 years of continuous Department service with the Plan immediately prior to reaching eligibility or age 60 with 10 or

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

more years of Qualifying service or at any age with 30 years of Qualifying service. For both tiers, combined years of service between WPERP and LACERS is used to determine retirement eligibility and at least 5 years must be actual employment at DWP or City. The one exception is the age 60 with 5 years of continuous Department Service for Tier 2 where only service with DWP can be counted. For both tiers, members receiving Permanent Total Disability benefits may retire regardless of age. For Tier 1, to be eligible for a Formula Pension, the employee must have worked or been paid disability four of the last five years immediately preceding eligibility to retire, or while eligible to retire.

The Formula Pension benefit the member will receive is based upon age at retirement, monthly average salary base and years of retirement service credit.

The Tier 1 Formula Pension is equal to 2.1% times years of service credit times monthly average salary base. In addition, members retiring after attaining age 55 with 30 years of service credit, receive an increase in the benefit factor from 2.1% to 2.3%. A reduced early retirement benefit is paid for those members attaining age 55 with 10 years of service or any age (under 55) with 30 years of service. The reduction is 1.5% for each year of retirement age between 60 and 55 and 3.0% for each year of retirement before age 55.

Under Tier 2, there are various benefit factors that apply as shown below:

- 1.5% at age 60 with 5 years of continuous Department Service (or 10 years of Qualifying Service)
- 2.0% at age 60 with 30 years of Qualifying Service
- 2.0% at age 55 with 30 years of Service Credit
- 2.0% at age 63 with 5 years of continuous Department Service (or 10 years of Qualifying Service)
- 2.1% at age 63 with 30 years of Qualifying Service

The reduced early retirement benefits for Tier 2 are the same as Tier 1. These are applied to the age 60 benefit for members (with 2.0% formula) who retire before age 60 with less than 30 years of service credit. Service Credit with the Department and with LACERS is combined for satisfying this requirement.

For Tier 1 members, the maximum monthly retirement allowance is 100% of monthly average salary base. For Tier 2 members, the maximum monthly retirement allowance is 80% of monthly average salary base.

Under Tier 1, pension benefits are calculated based on the highest average salary earned during a 12-month period. Under Tier 2, pension benefits are calculated based on the average salary earned during a 36-month period.

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For both tiers, the member may elect the Full Allowance, or choose an optional retirement allowance. The Full Allowance provides the highest monthly benefit and up to a 50% continuance to an eligible surviving spouse or domestic partner. There are five optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the Full Allowance in order to allow the member the ability to provide various benefits to a surviving spouse, domestic partner, or named beneficiary.

WPERP provides annual cost-of-living adjustments (COLAs) to retirees that are not considered vested retirement. The cost-of-living adjustments are made each July 1 based on the percentage change in the average of the Consumer Price Index for the Los Angeles-Long Beach-Anaheim Area--All Items For All Urban Consumers. It is capped at 3.0% for Tier 1 and 2.0% for Tier 2. Tier 2 members may purchase additional 1% COLA protection at full actuarial cost.

The LADWP contributes to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Administration. Employer contribution rates are adopted annually based upon recommendations received from WPERP's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2019 (based on the July 1, 2018 valuation) was 40.15% of compensation.

All members are required to make contributions to WPERP regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2019 (based on the July 1, 2018 valuation) was 7.35% of compensation. Most Tier 1 members contribute at 6% of compensation and all Tier 2 members contribute at 10% of compensation.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 2

Net Pension Liability

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|--|-------------------------|-------------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| The components of the Net Pension Liability are as follows: | | |
| Total Pension Liability | \$13,811,956,483 | \$13,187,542,730 |
| Plan's Fiduciary Net Position | <u>(12,987,087,001)</u> | <u>(12,277,085,263)</u> |
| Net Pension Liability | \$824,869,482 | \$910,457,467 |
| Plan's Fiduciary Net Position as a Percentage of the Total Pension Liability | 94.03% | 93.10% |

The Net Pension Liability (NPL) for the Plan was measured as of June 30, 2019 and 2018. The Plan's Fiduciary Net Position (plan assets) and Total Pension Liability (TPL) were valued as of the measurement date and are from actuarial valuations as of July 1, 2019 and 2018, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the WPERP actuarial valuations as of July 1, 2019 and 2018, respectively.

Actuarial assumptions. The TPL as of June 30, 2019 was determined by an actuarial valuation as of July 1, 2019. The actuarial assumptions used in the June 30, 2019 measurement were based on the results of an experience study for the period from July 1, 2015 through June 30, 2018. They are the same as the assumptions used in the July 1, 2019 funding actuarial valuation for the WPERP. The assumptions used in the funding valuation are outlined on page 9 of this report. In particular, the following assumptions were applied to all periods included in the June 30, 2019 measurement:

| | |
|---------------------------|--|
| Inflation | 2.75% |
| Salary increases | 4.50% to 10.25%, varying by service, including inflation |
| Investment rate of return | 7.00%, net of pension plan investment expense, including inflation |
| Other Assumptions | Same as those used in the July 1, 2019 funding valuation |

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The TPL as of June 30, 2018 was determined by an actuarial valuation as of July 1, 2018. The actuarial assumptions used in the June 30, 2018 measurement were based on the results of an experience study for the period from July 1, 2012 through June 30, 2015. Moreover, the employee contribution, Additional Annuity and matching account crediting rate was changed from 7.50% to 7.25% based on a Plan amendment. The service used to determine the proportion of Tier 2 terminating members assumed to be ordinary withdrawals changed to 5 years (from 15 years) based on vesting eligibility changes to Tier 2 plan. These assumptions are the same as the assumptions used in the July 1, 2018 funding actuarial valuation for the WPERP. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2018 measurement:

| | |
|---------------------------|--|
| Inflation | 3.00% |
| Salary increases | 4.50% to 10.00%, varying by service, including inflation |
| Investment rate of return | 7.25%, net of pension plan investment expense, including inflation |
| Other Assumptions | Same as those used in the July 1, 2018 funding valuation |

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EXHIBIT 3

Target Asset Allocation

The long-term expected rate of return on pension plan investments was determined in 2019 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption as of June 30, 2019 are summarized in the following table. This information will change every three years based on the actuarial experience study.

| Asset Class | Target Allocation | Long-Term Expected Arithmetic Real Rate of Return |
|--|--------------------------|--|
| Large Cap US Equity | 22.95% | 5.44% |
| Small Cap US Equity | 1.75% | 6.18% |
| Developed International Large Cap Equity | 13.06% | 6.54% |
| Developed International Small Cap Equity | 2.18% | 6.64% |
| Global Equity | 2.90% | 6.45% |
| Emerging Market Equity | 5.16% | 8.73% |
| Real Estate | 8.00% | 4.60% |
| Cash and Equivalents | 1.00% | 0.25% |
| Private Equity | 8.00% | 9.27% |
| Hedge Funds | 5.00% | 3.53% |
| Custom Fixed Income | 25.00% | 1.65% |
| Custom Real Return | 5.00% | 2.07% |
| Total | 100.00% | |

Discount rate. The discount rate used to measure the TPL was 7.00% and 7.25% as of June 30, 2019 and June 30, 2018, respectively. The projection of cash flows used to determine the discount rate assumed member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the required contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2019 and June 30, 2018.

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EXHIBIT 4

Discount Rate Sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the WPERP as of June 30, 2019, calculated using the discount rate of 7.00%, as well as what the WPERP NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

| Net Pension Liability | 1% Decrease (6.00%) | Current Discount Rate (7.00%) | 1% Increase (8.00%) |
|------------------------------|--------------------------------|--|--------------------------------|
| Water | \$848,610,787 | \$260,739,362 | \$(225,041,192) |
| Power | <u>1,836,036,191</u> | <u>564,130,120</u> | <u>(486,894,321)</u> |
| Total for all Entities | \$2,684,646,978 | \$824,869,482 | \$(711,935,513) |

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EXHIBIT 5

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

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|-------------------------|-------------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Total Pension Liability | | |
| 1. Service Cost | \$243,262,953 | \$228,621,066 |
| 2. Interest | 952,071,733 | 913,798,415 |
| 3. Change of benefit terms | 0 | (59,019,242) |
| 4. Differences between expected and actual experience | 17,806,843 | 10,253,750 |
| 5. Changes of assumptions | 8,835,790 | 0 |
| 6. Benefit payments, including refunds of member contributions | <u>(597,563,566)</u> | <u>(563,212,525)</u> |
| 7. Net change in Total Pension Liability | \$624,413,753 | \$530,441,464 |
| 8. Total Pension Liability – beginning | <u>\$13,187,542,730</u> | <u>\$12,657,101,266</u> |
| 9. Total Pension Liability – ending (7) + (8) | <u>\$13,811,956,483</u> | <u>\$13,187,542,730</u> |
| Plan’s fiduciary net position | | |
| 10. Contributions – employer (including those for administrative expenses) | \$416,180,197 | \$439,298,444 |
| 11. Contributions – employee | 104,741,925 | 93,659,240 |
| 12. Net investment income | 791,832,113 | 998,777,227 |
| 13. Benefit payments, including refunds of member contributions | (597,563,566) | (563,212,525) |
| 14. Administrative expense | (5,188,931) | (5,336,458) |
| 15. Other | <u>0</u> | <u>0</u> |
| 16. Net change in Plan’s Fiduciary Net Position | \$710,001,738 | \$963,185,928 |
| 17. Plan’s Fiduciary Net Position – beginning | <u>\$12,277,085,263</u> | <u>\$11,313,899,335</u> |
| 18. Plan’s Fiduciary Net Position – ending (16) + (17) | \$12,987,087,001 | \$12,277,085,263 |
| 19. Net Pension Liability – ending (9) – (18) | <u>\$824,869,482</u> | <u>\$910,457,467</u> |
| 20. Plan’s fiduciary net position as a percentage of the Total Pension Liability (18) / (9) | 94.03% | 93.10% |
| 21. Covered payroll | \$1,028,212,002 | \$953,635,670 |
| 22. Plan Net Pension Liability as percentage of covered payroll (19) / (21) | 80.22% | 95.47% |

Notes to Schedule:

Benefit changes: None.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 6

Schedule of Employer Contributions – Last Ten Fiscal Years

| Year Ended June 30, | Actuarially Determined Contributions⁽¹⁾⁽²⁾⁽³⁾ | Contributions in Relation to the Actuarially Determined Contributions⁽²⁾⁽³⁾ | Contribution Deficiency (Excess) | Covered Payroll | Contributions as a Percentage of Covered Payroll |
|--------------------------------|---|---|---|------------------------|---|
| 2010 | \$200,578,728 | \$201,034,807 | \$(456,079) | \$767,912,436 | 26.18% |
| 2011 | 304,431,910 | 286,699,384 | 17,732,526 | 791,760,493 | 36.21% |
| 2012 | 336,874,865 | 321,688,919 | 15,185,946 | 805,607,436 | 39.93% |
| 2013 | 376,667,610 | 368,426,348 | 8,241,262 | 817,421,028 | 45.07% |
| 2014 | 387,823,989 | 384,265,892 | 3,558,097 | 819,923,866 | 46.87% |
| 2015 | 387,464,759 | 376,902,022 | 10,562,737 | 839,213,254 | 44.91% |
| 2016 | 368,599,924 | 362,359,894 | 6,240,030 | 861,818,854 | 42.05% |
| 2017 | 403,780,319 | 391,717,359 | 12,062,960 | 892,332,196 | 43.90% |
| 2018 | 425,512,236 | 433,412,569 | (7,900,333) | 953,635,670 | 45.45% |
| 2019 ⁽⁴⁾ | 408,750,192 | 410,165,124 | (1,414,932) | 1,028,212,002 | 39.89% |

⁽¹⁾ All “Actuarially Determined Contributions” through June 30, 2014 were determined as the “Annual Required Contribution” under GAS 25 and 27.

⁽²⁾ Based on actual covered payroll reported by the Retirement Office. For the year ended June 30, 2015, reflects the effect of the phase-in over two years of the contribution rate impact of new actuarial assumptions adopted by the Board effective with the July 1, 2014 valuation. For the year ended June 30, 2017, reflects the effect of the phase-in over two years of the contribution rate impact of new actuarial assumptions adopted by the Board effective with the July 1, 2016 valuation.

⁽³⁾ Excludes employer contributions towards administrative expenses.

⁽⁴⁾ Starting in 2019, the actuarially determined contributions is determined by applying the Tier 1 and Tier 2 contribution rates to their respective payroll.

See accompanying notes to this schedule on next page.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

Notes to Exhibit 6

Methods and assumptions used to establish “actuarially determined contribution” rates:

| | |
|--------------------------------------|---|
| Valuation date | Actuarially determined contribution rates are calculated as of July 1, one year prior to the end of the fiscal year in which contributions are reported |
| Actuarial cost method | Entry Age Actuarial Cost Method |
| Amortization method | Level dollar amortization |
| Remaining amortization period | The July 1, 2004 Unfunded Actuarial Accrued Liability is amortized over a 15-year period commencing July 1, 2004. Any subsequent changes in Unfunded Actuarial Accrued Liability are amortized over separate 15-year periods effective with that valuation. |
| Asset valuation method | The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market returns and the expected returns on a market value basis, and is recognized over a five-year period. As directed by the Retirement Office, the actuarial valuation of assets may be reduced by an amount classified as a non-valuation reserve. |

| | <u>July 1, 2019 Valuation Date</u> | <u>July 1, 2018 Valuation Date</u> |
|---------------------------------------|---|--|
| Actuarial assumptions: | | |
| Investment rate of return | 7.00%, net of investment expenses | 7.25%, net of investment expenses |
| Inflation rate | 2.75% | 3.00% |
| Real across-the-board salary increase | 0.50% | 0.50% |
| Projected salary increases* | 4.50% to 10.25% | 4.50% to 10.00% |
| Cost of living adjustments | 2.75% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2) | 3.00% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2) |
| Mortality | Post-Retirement: Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table times 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018 | Post-Retirement: Headcount-weighted RP-2014 Healthy Annuitant Mortality Table with no age adjustment for males and set back one year for females, projected generationally with the two-dimensional MP-2015 projection scale |
| Other assumptions | Same as those used in the July 1, 2019 funding actuarial valuation | Same as those used in the July 1, 2018 funding actuarial valuation |

* Includes inflation at 2.75% and 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotion increases as of July 1, 2019 and 2018, respectively.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 7

Determination of Proportionate Share

| | <u>Projected Compensation by Funding Entity</u> | |
|---------------|---|---|
| | <u>July 1, 2019 to June 30, 2020</u> | |
| <u>Entity</u> | <u>Projected Compensation</u> | <u>Proportionate Share as of June 30, 2019 Measurement Date</u> |
| Water | \$360,944,278 | 31.610% |
| Power | <u>780,931,338</u> | <u>68.390%</u> |
| Total | \$1,141,875,616 | 100.000% |

Notes:

Projected July 1, 2019 through June 30, 2020 compensation information is based on the July 1, 2019 actuarial valuation.

The following items are allocated based on the corresponding proportionate share shown above.

- 1) Net Pension Liability
- 2) Service Cost
- 3) Interest on the Total Pension Liability
- 4) Current-period benefit changes
- 5) Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- 6) Expensed portion of current-period changes of assumptions or other inputs
- 7) Member contributions
- 8) Projected earnings on plan investments
- 9) Expensed portion of current-period differences between actual and projected earnings on plan investments
- 10) Administrative expense
- 11) Recognition of beginning of year deferred outflows of resources as pension expense
- 12) Recognition of beginning of year deferred inflows of resources as pension expense

For purposes of the above results, the reporting date for the employer under GAS 68 is June 30, 2020. The reporting date and measurement date for the plan under GAS 67 are June 30, 2019. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2019 are not adjusted or "rolled forward" to June 30, 2020. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 7 (continued)

Determination of Proportionate Share

| | <u>Projected Compensation by Funding Entity</u> | |
|---------------|---|---|
| | <u>July 1, 2018 to June 30, 2019</u> | |
| <u>Entity</u> | <u>Projected Compensation</u> | <u>Proportionate Share as of June 30, 2018 Measurement Date</u> |
| Water | \$344,835,498 | 32.121% |
| Power | <u>728,719,110</u> | <u>67.879%</u> |
| Total | \$1,073,554,608 | 100.000% |

Notes:

Projected July 1, 2018 through June 30, 2019 compensation information is based on the July 1, 2018 actuarial valuation.

The following items are allocated based on the corresponding proportionate share shown above.

- 1) Net Pension Liability
- 2) Service Cost
- 3) Interest on the Total Pension Liability
- 4) Current-period benefit changes
- 5) Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- 6) Expensed portion of current-period changes of assumptions or other inputs
- 7) Member contributions
- 8) Projected earnings on plan investments
- 9) Expensed portion of current-period differences between actual and projected earnings on plan investments
- 10) Administrative expense
- 11) Recognition of beginning of year deferred outflows of resources as pension expense
- 12) Recognition of beginning of year deferred inflows of resources as pension expense

For purposes of the above results, the reporting date for the employer under GAS 68 is June 30, 2019. The reporting date and measurement date for the plan under GAS 67 are June 30, 2018. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2018 are not adjusted or "rolled forward" to June 30, 2019. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 7 (continued)

Determination of Proportionate Share

| | <u>Projected Compensation by Funding Entity</u> | |
|---------------|---|---|
| | <u>July 1, 2017 to June 30, 2018</u> | |
| <u>Entity</u> | <u>Projected Compensation</u> | <u>Proportionate Share as of June 30, 2017 Measurement Date</u> |
| Water | \$314,884,513 | 31.748% |
| Power | <u>676,930,481</u> | <u>68.252%</u> |
| Total | \$991,814,994 | 100.000% |

Notes:

Projected July 1, 2017 through June 30, 2018 compensation information is based on the July 1, 2017 actuarial valuation.

The following items are allocated based on the corresponding proportionate share shown above.

- 1) Net Pension Liability
- 2) Service Cost
- 3) Interest on the Total Pension Liability
- 4) Current-period benefit changes
- 5) Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- 6) Expensed portion of current-period changes of assumptions or other inputs
- 7) Member contributions
- 8) Projected earnings on plan investments
- 9) Expensed portion of current-period differences between actual and projected earnings on plan investments
- 10) Administrative expense
- 11) Recognition of beginning of year deferred outflows of resources as pension expense
- 12) Recognition of beginning of year deferred inflows of resources as pension expense

For purposes of the above results, the reporting date for the employer under GAS 68 is June 30, 2018. The reporting date and measurement date for the plan under GAS 67 are June 30, 2017. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2017 are not adjusted or "rolled forward" to June 30, 2018. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

**EXHIBIT 8
Pension Expense – Total**

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|-----------------------------|-----------------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Components of Pension Expense | | |
| 1. Service cost | \$243,262,953 | \$228,621,066 |
| 2. Interest on the Total Pension Liability | 952,071,733 | 913,798,415 |
| 3. Expensed portion of current-period changes in proportion and differences between entity's contributions and proportionate share of contributions | 0 | 0 |
| 4. Current-period benefit changes | 0 | (59,019,242) |
| 5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 2,765,038 | 1,659,183 |
| 6. Expensed portion of current-period changes of assumptions or other inputs | 1,372,017 | 0 |
| 7. Member contributions | (104,741,925) | (93,659,240) |
| 8. Projected earnings on plan investments | (887,122,330) | (818,967,517) |
| 9. Expensed portion of current-period differences between actual and projected earnings on plan investments | 19,058,043 | (35,961,942) |
| 10. Administrative expense | 5,188,931 | 5,336,458 |
| 11. Other | 0 | 0 |
| 12. Recognition of beginning of year deferred outflows of resources as pension expense | 337,432,913 | 424,884,104 |
| 13. Recognition of beginning of year deferred inflows of resources as pension expense | (246,537,499) | (393,696,089) |
| 14. Net amortization of deferred amounts from changes in proportion and differences between entity's contributions and proportionate share of contributions | <u>0</u> | <u>0</u> |
| Pension Expense | <u>\$322,749,874</u> | <u>\$172,995,196</u> |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

**EXHIBIT 8 (continued)
Pension Expense – Water**

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|-----------------------------|----------------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Components of Pension Expense | | |
| 1. Service cost | \$76,894,866 | \$73,435,165 |
| 2. Interest on the Total Pension Liability | 300,947,704 | 293,520,356 |
| 3. Expensed portion of current-period changes in proportion and differences between entity's contributions and proportionate share of contributions | (354,252) | 805,102 |
| 4. Current-period benefit changes | 0 | (18,957,517) |
| 5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 874,022 | 532,945 |
| 6. Expensed portion of current-period changes of assumptions or other inputs | 433,691 | 0 |
| 7. Member contributions | (33,108,684) | (30,084,199) |
| 8. Projected earnings on plan investments | (280,417,346) | (263,059,810) |
| 9. Expensed portion of current-period differences between actual and projected earnings on plan investments | 6,024,204 | (11,551,303) |
| 10. Administrative expense | 1,640,209 | 1,714,119 |
| 11. Other | 0 | 0 |
| 12. Recognition of beginning of year deferred outflows of resources as pension expense | 106,661,774 | 136,476,636 |
| 13. Recognition of beginning of year deferred inflows of resources as pension expense | (77,929,941) | (126,458,762) |
| 14. Net amortization of deferred amounts from changes in proportion and differences between entity's contributions and proportionate share of contributions | <u>514,467</u> | <u>(266,246)</u> |
| Pension Expense | <u>\$102,180,714</u> | <u>\$56,106,486</u> |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

**EXHIBIT 8 (continued)
Pension Expense – Power**

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|-----------------------------|-----------------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Components of Pension Expense | | |
| 1. Service cost | \$166,368,087 | \$155,185,901 |
| 2. Interest on the Total Pension Liability | 651,124,029 | 620,278,059 |
| 3. Expensed portion of current-period changes in proportion and differences between entity's contributions and proportionate share of contributions | 354,252 | (805,102) |
| 4. Current-period benefit changes | 0 | (40,061,725) |
| 5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 1,891,016 | 1,126,238 |
| 6. Expensed portion of current-period changes of assumptions or other inputs | 938,326 | 0 |
| 7. Member contributions | (71,633,241) | (63,575,041) |
| 8. Projected earnings on plan investments | (606,704,984) | (555,907,707) |
| 9. Expensed portion of current-period differences between actual and projected earnings on plan investments | 13,033,839 | (24,410,639) |
| 10. Administrative expense | 3,548,722 | 3,622,339 |
| 11. Other | 0 | 0 |
| 12. Recognition of beginning of year deferred outflows of resources as pension expense | 230,771,139 | 288,407,468 |
| 13. Recognition of beginning of year deferred inflows of resources as pension expense | (168,607,558) | (267,237,327) |
| 14. Net amortization of deferred amounts from changes in proportion and differences between entity's contributions and proportionate share of contributions | <u>(514,467)</u> | <u>266,246</u> |
| Pension Expense | <u>\$220,569,160</u> | <u>\$116,888,710</u> |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

**EXHIBIT 9
Deferred Outflows of Resources and Deferred Inflows of Resources – Total**

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Deferred Outflows of Resources | | |
| 1. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$8,312,429 | \$9,826,014 |
| 2. Changes of assumptions or other inputs | 218,584,242 | 352,387,608 |
| 3. Net excess of projected over actual earnings on pension plan investments (if any) | 0 | 0 |
| 4. Difference between actual and expected experience in the Total Pension Liability | <u>21,977,189</u> | <u>8,594,567</u> |
| 5. Total Deferred Outflows of Resources | <u>\$248,873,860</u> | <u>\$370,808,189</u> |
| Deferred Inflows of Resources | | |
| 6. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$8,312,429 | \$9,826,014 |
| 7. Changes of assumptions or other inputs | 0 | 0 |
| 8. Net excess of actual over projected earnings on pension plan investments (if any) | 120,666,681 | 148,566,179 |
| 9. Difference between expected and actual experience in the Total Pension Liability | <u>166,092,746</u> | <u>266,456,330</u> |
| 10. Total Deferred Inflows of Resources | <u>\$295,071,856</u> | <u>\$424,848,523</u> |
| Deferred outflows of resources and deferred inflows of resources related to pension expense will be recognized as follows: | | |
| Reporting Date for Employer under GAS 68 Year Ended June 30: | | |
| 2020 | N/A | \$90,895,414 |
| 2021 | \$57,372,639 | 34,177,541 |
| 2022 | (93,086,338) | (116,281,436) |
| 2023 | (41,594,590) | (64,789,688) |
| 2024 | 24,854,283 | 1,659,183 |
| 2025 | 4,435,707 | 298,652 |
| 2026 | 1,820,303 | 0 |
| Thereafter | 0 | 0 |

⁽¹⁾ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 9 (continued)

Deferred Outflows of Resources and Deferred Inflows of Resources – Water

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Deferred Outflows of Resources | | |
| 1. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$4,043,851 | \$6,021,444 |
| 2. Changes of assumptions or other inputs | 69,093,980 | 113,190,102 |
| 3. Net excess of projected over actual earnings on pension plan investments (if any) | 0 | 0 |
| 4. Difference between actual and expected experience in the Total Pension Liability | <u>6,946,939</u> | <u>2,760,653</u> |
| 5. Total Deferred Outflows of Resources | <u>\$80,084,770</u> | <u>\$121,972,199</u> |
| Deferred Inflows of Resources | | |
| 6. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$4,268,578 | \$3,804,570 |
| 7. Changes of assumptions or other inputs | 0 | 0 |
| 8. Net excess of actual over projected earnings on pension plan investments (if any) | 38,142,463 | 47,720,807 |
| 9. Difference between expected and actual experience in the Total Pension Liability | <u>52,501,538</u> | <u>85,588,195</u> |
| 10. Total Deferred Inflows of Resources | <u>\$94,912,579</u> | <u>\$137,113,572</u> |
| Deferred outflows of resources and deferred inflows of resources related to pension expense will be recognized as follows: | | |
| Reporting Date for Employer under GAS 68 Year Ended June 30: | | |
| 2020 | N/A | \$29,710,900 |
| 2021 | \$17,745,794 | 10,942,823 |
| 2022 | (29,843,894) | (37,415,917) |
| 2023 | (12,649,244) | (19,958,074) |
| 2024 | 8,307,232 | 1,338,047 |
| 2025 | 1,192,784 | 240,848 |
| 2026 | 419,519 | 0 |
| Thereafter | 0 | 0 |

⁽¹⁾ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 9 (continued)

Deferred Outflows of Resources and Deferred Inflows of Resources – Power

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Deferred Outflows of Resources | | |
| 1. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$4,268,578 | \$3,804,570 |
| 2. Changes of assumptions or other inputs | 149,490,262 | 239,197,506 |
| 3. Net excess of projected over actual earnings on pension plan investments (if any) | 0 | 0 |
| 4. Difference between actual and expected experience in the Total Pension Liability | <u>15,030,250</u> | <u>5,833,914</u> |
| 5. Total Deferred Outflows of Resources | <u>\$168,789,090</u> | <u>\$248,835,990</u> |
| Deferred Inflows of Resources | | |
| 6. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾ | \$4,043,851 | \$6,021,444 |
| 7. Changes of assumptions or other inputs | 0 | 0 |
| 8. Net excess of actual over projected earnings on pension plan investments (if any) | 82,524,218 | 100,845,372 |
| 9. Difference between expected and actual experience in the Total Pension Liability | <u>113,591,208</u> | <u>180,868,135</u> |
| 10. Total Deferred Inflows of Resources | <u>\$200,159,277</u> | <u>\$287,734,951</u> |
| Deferred outflows of resources and deferred inflows of resources related to pension expense will be recognized as follows: | | |
| Reporting Date for Employer under GAS 68 Year Ended June 30: | | |
| 2020 | N/A | \$61,184,514 |
| 2021 | \$39,626,845 | 23,234,718 |
| 2022 | (63,242,444) | (78,865,519) |
| 2023 | (28,945,346) | (44,831,614) |
| 2024 | 16,547,051 | 321,136 |
| 2025 | 3,242,923 | 57,804 |
| 2026 | 1,400,784 | 0 |
| Thereafter | 0 | 0 |

⁽¹⁾ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 9 (continued)

Deferred Outflows of Resources and Deferred Inflows of Resources

There are changes in each entity's proportionate share of the total Net Pension Liability (NPL) during the measurement period ended June 30, 2019. The net effect of the change on the entity's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is recognized over the average of the expected remaining service lives of all employees that are provided with pensions through the WPERP which is 6.44 years determined as of July 1, 2018 (the beginning of the measurement period ended June 30, 2019). This is described in Paragraph 33a. of GAS 68.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended June 30, 2019 is recognized over the same period.

The net effects of the change on the entity's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources and the difference between the actual employer contributions and the proportionate share of the employer contributions for prior periods continue to be recognized based on the expected remaining service lives of all employees calculated as of those prior measurement dates.

The average of the expected service lives of all employees is determined by:

- Calculating each active employees' expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 10

Schedule of Proportionate Share of the Net Pension Liability – Total

| Reporting Date for Employer under GAS 68 as of June 30 | Proportion of the Net Pension Liability | Proportionate share of Net Pension Liability | Covered payroll⁽¹⁾ | Proportionate share of the Net Pension Liability as a percentage of its covered payroll | Plan's Fiduciary Net Position as a percentage of the Total Pension Liability |
|---|--|---|--------------------------------------|--|---|
| 2013 | 100.0% | \$2,308,458,976 | \$805,607,436 | 286.55% | 76.18% |
| 2014 | 100.0% | 1,790,856,442 | 817,421,028 | 219.09% | 82.26% |
| 2015 | 100.0% | 1,272,233,314 | 819,923,866 | 155.16% | 88.41% |
| 2016 | 100.0% | 1,144,145,298 | 839,213,254 | 136.34% | 89.80% |
| 2017 | 100.0% | 2,191,386,273 | 861,818,854 | 254.27% | 82.17% |
| 2018 | 100.0% | 1,343,201,931 | 892,332,196 | 150.53% | 89.39% |
| 2019 | 100.0% | 910,457,467 | 953,635,670 | 95.47% | 93.10% |
| 2020 | 100.0% | 824,869,482 | 1,028,212,002 | 80.22% | 94.03% |

⁽¹⁾ These are the actual payroll amounts for the years ending on the dates shown.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 10 (continued)

Schedule of Proportionate Share of the Net Pension Liability – Water

| Reporting Date for Employer under GAS 68 as of June 30 | Proportion of the Net Pension Liability | Proportionate share of Net Pension Liability | Covered payroll | Proportionate share of the Net Pension Liability as a percentage of its covered payroll | Plan’s Fiduciary Net Position as a percentage of the Total Pension Liability |
|---|--|---|------------------------|--|---|
| 2013 | 32.292% | \$745,446,783 | \$260,146,478 | 286.55% | 76.18% |
| 2014 | 32.573% | 583,343,786 | 266,262,257 | 219.09% | 82.26% |
| 2015 | 32.344% | 411,484,901 | 265,192,153 | 155.16% | 88.41% |
| 2016 | 32.603% | 373,023,565 | 273,607,137 | 136.34% | 89.80% |
| 2017 | 31.892% | 698,878,038 | 274,851,713 | 254.27% | 82.17% |
| 2018 | 31.748% | 426,443,932 | 283,300,404 | 150.53% | 89.39% |
| 2019 | 32.121% | 292,447,213 | 306,316,444 | 95.47% | 93.10% |
| 2020 | 31.610% | 260,739,362 | 325,015,469 | 80.22% | 94.03% |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 10 (continued)

Schedule of Proportionate Share of the Net Pension Liability – Power

| Reporting Date for Employer under GAS 68 as of June 30 | Proportion of the Net Pension Liability | Proportionate share of Net Pension Liability | Covered payroll | Proportionate share of the Net Pension Liability as a percentage of its covered payroll | Plan’s Fiduciary Net Position as a percentage of the Total Pension Liability |
|---|--|---|------------------------|--|---|
| 2013 | 67.708% | \$1,563,012,193 | \$545,460,958 | 286.55% | 76.18% |
| 2014 | 67.427% | 1,207,512,656 | 551,158,771 | 219.09% | 82.26% |
| 2015 | 67.656% | 860,748,413 | 554,731,713 | 155.16% | 88.41% |
| 2016 | 67.397% | 771,121,733 | 565,606,117 | 136.34% | 89.80% |
| 2017 | 68.108% | 1,492,508,235 | 586,967,141 | 254.27% | 82.17% |
| 2018 | 68.252% | 916,757,999 | 609,031,792 | 150.53% | 89.39% |
| 2019 | 67.879% | 618,010,254 | 647,319,226 | 95.47% | 93.10% |
| 2020 | 68.390% | 564,130,120 | 703,196,533 | 80.22% | 94.03% |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 11

Schedule of Reconciliation of Net Pension Liability – Total

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Reconciliation of Net Pension Liability | | |
| 1. Beginning Net Pension Liability | \$910,457,467 | \$1,343,201,931 |
| 2. Pension Expense | 322,749,874 | 172,995,196 |
| 3. Employer Contributions | (416,180,197) | (439,298,444) |
| 4. New Net Deferred Inflows/Outflows | 98,737,752 | (135,253,201) |
| 5. Change in Allocation of Prior Deferred Inflows/Outflows | 0 | 0 |
| 6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾ | 0 | 0 |
| 7. Recognition of Prior Deferred Inflows/Outflows | (90,895,414) | (31,188,015) |
| 8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾ | <u>0</u> | <u>0</u> |
| 9. Ending Net Pension Liability | <u>\$824,869,482</u> | <u>\$910,457,467</u> |

⁽¹⁾ Includes differences between actual employer contributions and proportionate share of contributions.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 11 (continued)

Schedule of Reconciliation of Net Pension Liability – Water

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Reconciliation of Net Pension Liability | | |
| 1. Beginning Net Pension Liability | \$292,447,213 | \$426,443,932 |
| 2. Pension Expense | 102,180,714 | 56,106,486 |
| 3. Employer Contributions | (134,202,129) | (141,496,251) |
| 4. New Net Deferred Inflows/Outflows | 31,210,778 | (43,444,558) |
| 5. Change in Allocation of Prior Deferred Inflows/Outflows | 276,220 | 418,803 |
| 6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾ | (1,927,134) | 4,170,429 |
| 7. Recognition of Prior Deferred Inflows/Outflows | (28,731,833) | (10,017,874) |
| 8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾ | <u>(514,467)</u> | <u>266,246</u> |
| 9. Ending Net Pension Liability | <u>\$260,739,362</u> | <u>\$292,447,213</u> |

⁽¹⁾ Includes differences between actual employer contributions and proportionate share of contributions.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 11 (continued)

Schedule of Reconciliation of Net Pension Liability – Power

| Reporting Date for Employer under GAS 68 | June 30, 2020 | June 30, 2019 |
|---|----------------------|----------------------|
| Measurement Date for Employer under GAS 68 | June 30, 2019 | June 30, 2018 |
| Reconciliation of Net Pension Liability | | |
| 1. Beginning Net Pension Liability | \$618,010,254 | \$916,757,999 |
| 2. Pension Expense | 220,569,160 | 116,888,710 |
| 3. Employer Contributions | (281,978,068) | (297,802,193) |
| 4. New Net Deferred Inflows/Outflows | 67,526,974 | (91,808,643) |
| 5. Change in Allocation of Prior Deferred Inflows/Outflows | (276,220) | (418,803) |
| 6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾ | 1,927,134 | (4,170,429) |
| 7. Recognition of Prior Deferred Inflows/Outflows | (62,163,581) | (21,170,141) |
| 8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾ | <u>514,467</u> | <u>(266,246)</u> |
| 9. Ending Net Pension Liability | <u>\$564,130,120</u> | <u>\$618,010,254</u> |

⁽¹⁾ Includes differences between actual employer contributions and proportionate share of contributions.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 12

Schedule of Recognition of Changes in Total Net Pension Liability

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Actual and Expected Experience on Total Pension Liability

| Reporting Date for Employer under GAS 68 Year Ended June 30 | Differences Between Actual and Expected Experience | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | | | |
|---|--|----------------------------|---|----------------|----------------|----------------|----------------|-------------|-------------|-------------|-----------|
| | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| 2014 | \$(98,062,638) | 5.24 | \$(4,491,418) | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2015 | (154,221,968) | 5.13 | (30,062,762) | (3,908,158) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | (162,912,927) | 5.47 | (29,782,985) | (29,782,985) | (13,998,002) | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017 | (189,469,795) | 5.65 | (33,534,477) | (33,534,477) | (33,534,477) | (21,797,410) | 0 | 0 | 0 | 0 | 0 |
| 2018 | (196,176,749) | 5.92 | (33,137,964) | (33,137,964) | (33,137,964) | (33,137,964) | (30,486,929) | 0 | 0 | 0 | 0 |
| 2019 | 10,253,750 | 6.18 | 1,659,183 | 1,659,183 | 1,659,183 | 1,659,183 | 1,659,183 | 1,659,183 | 298,652 | 0 | 0 |
| 2020 | 17,806,843 | 6.44 | 0 | 2,765,038 | 2,765,038 | 2,765,038 | 2,765,038 | 2,765,038 | 2,765,038 | 2,765,038 | 1,216,615 |
| Net increase (decrease) in pension expense | | | \$(129,350,423) | \$(95,939,363) | \$(76,246,222) | \$(50,511,153) | \$(26,062,708) | \$4,424,221 | \$3,063,690 | \$1,216,615 | |

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Assumption Changes

| Reporting Date for Employer under GAS 68 Year Ended June 30 | Effect of Assumption Changes | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | | | |
|---|------------------------------|----------------------------|---|---------------|---------------|--------------|-------------|-------------|-------------|-------------|-----------|
| | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| 2014 | \$0 | 5.24 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2015 | 525,443,921 | 5.13 | 102,425,716 | 13,315,341 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 0 | 5.47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017 | 722,927,661 | 5.65 | 127,951,798 | 127,951,798 | 127,951,798 | 83,168,671 | 0 | 0 | 0 | 0 | 0 |
| 2018 | 0 | 5.92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 6.18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2020 | 8,835,790 | 6.44 | 0 | 1,372,017 | 1,372,017 | 1,372,017 | 1,372,017 | 1,372,017 | 1,372,017 | 1,372,017 | 603,688 |
| Net increase (decrease) in pension expense | | | \$230,377,514 | \$142,639,156 | \$129,323,815 | \$84,540,688 | \$1,372,017 | \$1,372,017 | \$1,372,017 | \$1,372,017 | \$603,688 |

As described in Exhibit 9, the average of the expected remaining service lives of all employees that are provided with pensions through the WPERP (active and inactive employees) determined as of July 1, 2018 (the beginning of the measurement period ending June 30, 2019) is 6.44 years.

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 12 (continued)

Schedule of Recognition of Changes in Total Net Pension Liability

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Pension Plan Investments

| Reporting Date for Employer under GAS 68 Year Ended June 30 | Differences between Projected and Actual Earnings | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | | | |
|---|---|----------------------------|---|---------------|---------------|-----------------|----------------|--------------|------|------|-----|
| | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| 2014 | \$(347,400,696) | 5.00 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2015 | (762,372,550) | 5.00 | (152,474,510) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 315,478,371 | 5.00 | 63,095,674 | 63,095,675 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017 | 657,054,582 | 5.00 | 131,410,916 | 131,410,916 | 131,410,918 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2018 | (551,059,866) | 5.00 | (110,211,973) | (110,211,973) | (110,211,973) | (110,211,974) | 0 | 0 | 0 | 0 | 0 |
| 2019 | (179,809,710) | 5.00 | (35,961,942) | (35,961,942) | (35,961,942) | (35,961,942) | (35,961,942) | 0 | 0 | 0 | 0 |
| 2020 | 95,290,217 | 5.00 | 0 | 19,058,043 | 19,058,043 | 19,058,043 | 19,058,043 | 19,058,045 | 0 | 0 | 0 |
| Net increase (decrease) in pension expense | | | \$(104,141,835) | \$67,390,719 | \$4,295,046 | \$(127,115,873) | \$(16,903,899) | \$19,058,045 | \$0 | \$0 | \$0 |

The differences between projected and actual earnings on pension plan investments are recognized over a five-year period per Paragraph 33b. of GAS 68.

Total Increase (Decrease) in Pension Expense

| Reporting Date for Employer under GAS 68 Year Ended June 30 | Total Differences | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | | | |
|---|-------------------|---|---------------|---------------|----------------|----------------|--------------|-------------|-------------|-----|
| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| 2014 | \$(445,463,334) | \$(4,491,418) | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2015 | (391,150,597) | (80,111,556) | 9,407,183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 152,565,444 | 33,312,689 | 33,312,690 | (13,998,002) | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017 | 1,190,512,448 | 225,828,237 | 225,828,237 | 225,828,239 | 61,371,261 | 0 | 0 | 0 | 0 | 0 |
| 2018 | (747,236,615) | (143,349,937) | (143,349,937) | (143,349,937) | (143,349,938) | (30,486,929) | 0 | 0 | 0 | 0 |
| 2019 | (169,555,960) | (34,302,759) | (34,302,759) | (34,302,759) | (34,302,759) | (34,302,759) | 1,659,183 | 298,652 | 0 | 0 |
| 2020 | 121,932,850 | 0 | 23,195,098 | 23,195,098 | 23,195,098 | 23,195,098 | 23,195,100 | 4,137,055 | 1,820,303 | 0 |
| Net increase (decrease) in pension expense | | \$(3,114,744) | \$114,090,512 | \$57,372,639 | \$(93,086,338) | \$(41,594,590) | \$24,854,283 | \$4,435,707 | \$1,820,303 | \$0 |

SECTION 2: GAS 68 Information for the Los Angeles Department of Water and Power

EXHIBIT 13

Allocation of Changes in Total Net Pension Liability

In addition to the amounts shown in Exhibit 12, there are changes in each entity’s proportionate share of the total Net Pension Liability (NPL) during the measurement period ending on June 30, 2019. The net effect of the change on the entity’s proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is also recognized over the average of the expected remaining service lives of all employees shown previously. The differences between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ending on June 30, 2019 are recognized over the same period. These amounts are shown below, with the corresponding amounts for the measurement periods ending each June 30 beginning in 2013 as follows. While these amounts are different for each entity, they sum to zero for the entire Plan.

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2019

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | |
|--------------|-------------------------------|----------------------------|---|----------------|----------------|----------------|----------------|----------------|----------------|
| | | | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Water | \$(2,281,386) | 6.44 | \$(354,252) | \$(354,252) | \$(354,252) | \$(354,252) | \$(354,252) | \$(354,252) | \$(155,874) |
| Power | <u>2,281,386</u> | 6.44 | <u>354,252</u> | <u>354,252</u> | <u>354,252</u> | <u>354,252</u> | <u>354,252</u> | <u>354,252</u> | <u>155,874</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2018

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | | |
|--------------|-------------------------------|----------------------------|---|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Water | \$4,975,531 | 6.18 | \$805,102 | \$805,102 | \$805,102 | \$805,102 | \$805,102 | \$805,102 | \$144,919 |
| Power | <u>(4,975,531)</u> | 6.18 | <u>(805,102)</u> | <u>(805,102)</u> | <u>(805,102)</u> | <u>(805,102)</u> | <u>(805,102)</u> | <u>(805,102)</u> | <u>(144,919)</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2017

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | |
|--------------|-------------------------------|----------------------------|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| Water | \$307,966 | 5.92 | \$52,021 | \$52,021 | \$52,021 | \$52,021 | \$52,021 | \$47,861 |
| Power | <u>(307,966)</u> | 5.92 | <u>(52,021)</u> | <u>(52,021)</u> | <u>(52,021)</u> | <u>(52,021)</u> | <u>(52,021)</u> | <u>(47,861)</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2016

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | |
|--------------|-------------------------------|----------------------------|---|------------------|------------------|------------------|------------------|----------------|
| | | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Water | \$(8,017,676) | 5.65 | \$(1,419,058) | \$(1,419,058) | \$(1,419,058) | \$(1,419,058) | \$(1,419,058) | \$(922,386) |
| Power | <u>8,017,676</u> | 5.65 | <u>1,419,058</u> | <u>1,419,058</u> | <u>1,419,058</u> | <u>1,419,058</u> | <u>1,419,058</u> | <u>922,386</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2015

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | |
|--------------|-------------------------------|----------------------------|---|--------------------|--------------------|--------------------|--------------------|------------------|
| | | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| Water | \$6,128,971 | 5.47 | \$1,120,470 | \$1,120,470 | \$1,120,470 | \$1,120,470 | \$1,120,470 | \$526,621 |
| Power | <u>(6,128,971)</u> | 5.47 | <u>(1,120,470)</u> | <u>(1,120,470)</u> | <u>(1,120,470)</u> | <u>(1,120,470)</u> | <u>(1,120,470)</u> | <u>(526,621)</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2014

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | |
|--------------|-------------------------------|----------------------------|---|----------------|----------------|----------------|----------------|---------------|
| | | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Water | \$(1,739,043) | 5.13 | \$(338,995) | \$(338,995) | \$(338,995) | \$(338,995) | \$(338,995) | \$(44,068) |
| Power | <u>1,739,043</u> | 5.13 | <u>338,995</u> | <u>338,995</u> | <u>338,995</u> | <u>338,995</u> | <u>338,995</u> | <u>44,068</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended June 30, 2013

| | Total Change to be Recognized | Recognition Period (Years) | Reporting Date for Employer under GAS 68 Year Ended June 30 | | | | | |
|--------------|-------------------------------|----------------------------|---|--------------------|--------------------|--------------------|--------------------|------------------|
| | | | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Water | \$6,971,701 | 5.24 | \$1,330,477 | \$1,330,477 | \$1,330,477 | \$1,330,477 | \$1,330,477 | \$319,316 |
| Power | <u>(6,971,701)</u> | 5.24 | <u>(1,330,477)</u> | <u>(1,330,477)</u> | <u>(1,330,477)</u> | <u>(1,330,477)</u> | <u>(1,330,477)</u> | <u>(319,316)</u> |
| Total | \$0 | | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Actuarial Assumptions and Methods

For June 30, 2019 Measurement Date and Employer Reporting as of June 30, 2020

Actuarial Assumptions:

Rationale for Assumptions:

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2015 through June 30, 2018 Actuarial Experience Study dated June 12, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 2 members.

Economic Assumptions:

Net Investment Return:

7.00%, net of investment expenses.

Consumer Price Index:

Increase of 2.75% per year. Retiree COLA increases due to CPI are subject to a 3% maximum change per year for Tier 1 and 2% maximum change per year for Tier 2.

Employee Contribution, Additional Annuity and Matching Account

Crediting Rate:

7.00%, based on Plan provisions

Administration Expenses:

Offset by additional employer contributions.

Increase in Internal Revenue Code

Section 401(a)(17) Compensation Limit:

Increase of 2.75% per year from the valuation date.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Salary Increases:

Inflation: 2.75% per year, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases.

Merit and Promotion Increases

| Years of Service | Rate (%) |
|-------------------------|-----------------|
| Less than 1 | 7.00 |
| 1 – 2 | 7.00 |
| 2 – 3 | 6.50 |
| 3 – 4 | 5.25 |
| 4 – 5 | 3.75 |
| 5 – 6 | 2.75 |
| 6 – 7 | 2.25 |
| 7 – 8 | 2.00 |
| 8 – 9 | 1.70 |
| 9 – 10 | 1.60 |
| 10 – 11 | 1.50 |
| 11 – 12 | 1.45 |
| 12 – 13 | 1.40 |
| 13 – 14 | 1.35 |
| 14 – 15 | 1.30 |
| 15 & over | 1.25 |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Demographic Assumptions:

Post-Retirement Mortality Rates:

Service Retirement and Disability Retirement:

- Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) times 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018.

Beneficiaries:

- Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Pre-Retirement Mortality Rates:

- Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.

| Age | Rate (%) | |
|-----|----------|--------|
| | Male | Female |
| 25 | 0.024 | 0.008 |
| 30 | 0.031 | 0.013 |
| 35 | 0.041 | 0.021 |
| 40 | 0.057 | 0.033 |
| 45 | 0.085 | 0.051 |
| 50 | 0.129 | 0.076 |
| 55 | 0.190 | 0.112 |
| 60 | 0.276 | 0.169 |
| 65 | 0.405 | 0.270 |
| 70 | 0.609 | 0.445 |

5% of pre-retirement deaths are assumed to be duty related with the remaining being non-duty related. Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Disability Incidence Rates:

| Age | Rate (%) | |
|------------|-----------------|---------------|
| | Male | Female |
| 25 | 0.006 | 0.000 |
| 30 | 0.012 | 0.006 |
| 35 | 0.012 | 0.036 |
| 40 | 0.018 | 0.072 |
| 45 | 0.030 | 0.102 |
| 50 | 0.054 | 0.138 |
| 55 | 0.126 | 0.168 |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Termination Rates:

| Years of Service | Rate (%) |
|-------------------------|-----------------|
| Less than 1 | 10.00 |
| 1 – 2 | 5.25 |
| 2 – 3 | 3.75 |
| 3 – 4 | 3.50 |
| 4 – 5 | 2.50 |
| 5 – 6 | 2.00 |
| 6 – 7 | 1.50 |
| 7 – 8 | 1.50 |
| 8 – 9 | 1.50 |
| 9 – 10 | 1.00 |
| 10 – 20 | 0.75 |
| 20 & Over | 0.50 |

Tier 1 Allocation of Termination Rates (%) between Ordinary Withdrawals and Vested Terminations

| Years of Service | Ordinary Withdrawals | Vested Terminations |
|-------------------------|-----------------------------|----------------------------|
| Less than 1 | 100 | 0 |
| 1 – 9 | 30 | 70 |
| 10 & Over | 15 | 85 |

Tier 2 Allocation of Termination Rates (%) between Ordinary Withdrawals and Vested Terminations

| Years of Service | Ordinary Withdrawals | Vested Terminations |
|-------------------------|-----------------------------|----------------------------|
| Less than 5 | 100 | 0 |
| 5 & Over | 15 | 85 |

Ordinary withdrawals are assumed to receive their account balance at termination. Vested terminations are assumed to receive a deferred retirement benefit. No termination is assumed after a member is first eligible to retire.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Retirement Rates:

| Age | Rate (%) | | | |
|-----------|---------------------------|-----------------------------|---------------------------|-----------------------------|
| | Tier 1 | | Tier 2 | |
| | Under 30 Years of Service | 30 or More Years of Service | Under 30 Years of Service | 30 or More Years of Service |
| 50 | 0.00 | 1.00 | 0.00 | 0.00 |
| 51 | 0.00 | 0.00 | 0.00 | 0.00 |
| 52 | 0.00 | 0.00 | 0.00 | 0.00 |
| 53 | 0.00 | 0.00 | 0.00 | 0.00 |
| 54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 55 | 4.25 | 27.00 | 0.00 | 25.00 |
| 56 | 2.00 | 20.00 | 0.00 | 14.00 |
| 57 | 2.50 | 17.50 | 0.00 | 13.00 |
| 58 | 3.50 | 17.50 | 0.00 | 13.00 |
| 59 | 3.50 | 17.50 | 0.00 | 13.00 |
| 60 | 5.50 | 22.00 | 5.50 | 17.50 |
| 61 | 6.50 | 22.00 | 3.50 | 10.00 |
| 62 | 7.00 | 22.00 | 2.50 | 10.00 |
| 63 | 8.00 | 25.00 | 20.00 | 25.00 |
| 64 | 8.50 | 27.00 | 12.00 | 25.00 |
| 65 | 11.50 | 30.00 | 11.00 | 28.00 |
| 66 | 12.00 | 30.00 | 11.00 | 28.00 |
| 67 | 12.50 | 30.00 | 12.00 | 28.00 |
| 68 | 13.00 | 30.00 | 12.50 | 28.00 |
| 69 | 17.00 | 30.00 | 15.00 | 28.00 |
| 70 | 22.00 | 25.00 | 50.00 | 50.00 |
| 71 | 22.00 | 25.00 | 50.00 | 50.00 |
| 72 | 22.00 | 25.00 | 50.00 | 50.00 |
| 73 | 22.00 | 25.00 | 50.00 | 50.00 |
| 74 | 22.00 | 25.00 | 50.00 | 50.00 |
| 75 & Over | 100.00 | 100.00 | 100.00 | 100.00 |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

| | |
|--|---|
| Retirement Age and Benefit for Inactive Vested Members: | For Tier 1, inactive vested members are assumed to retire at age 60 with a Money Purchase Annuity. For Tier 2, inactive vested members are assumed to retire at age 63. Tier 1 and Tier 2 members receiving Permanent Total Disability benefits are assumed to retire at the earlier of age 65 or age 55 with 30 years of service. |
| Definition of Active Members: | First day of biweekly payroll following employment. |
| Unknown Data for Members: | Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. |
| Data Adjustments: | Data as of March 31 has been adjusted to June 30 by adding three months of age and, for active employees, three months of service. Contribution account balances were also increased by three months of interest. For members in pay status, we have increased their benefits by the assumed July 1 COLA. |
| Percent Married/Domestic Partner: | 85% of male members and 60% of female members are assumed to have an eligible spouse or domestic partner at pre-retirement death or retirement. The assumption is also applied for current retirees retired before April 1, 2012 with Options Full, A, B, or C since they are missing this data. Spousal gender is assumed to be opposite that of the member. |
| Age of Spouse: | Male retirees are 3 years older than their spouses, and female retirees are 2 years younger than their spouses. |
| Future Benefit Accruals: | 1.0 year of service per year. |
| Additional Service Accrual: | Tier 1 members are assumed to purchase an additional 0.07 years of service per year. Tier 2 members are assumed to purchase an additional 0.02 years of service per year. These service purchases exclude those priced at full actuarial cost. The valuation reflects expected future member contributions that are associated with these assumed service purchases. |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Actuarial Funding Policy:

- Actuarial Cost Method:** Entry Age Actuarial Cost Method. Entry Age equals attained age less years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percent of salary.
- Projected Compensation:** Projected compensation for the year following the valuation date is calculated by annualizing the bi-weekly pay rate increased by the assumed rate of salary increase. For members with less than one year of service as of the valuation date, no salary increase assumption is applied to their annualized compensation.
- Expected Remaining Service Lives:** The average of the expected service lives of all employees is determined by:
- Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
 - Setting the remaining service life to zero for each nonactive or retired member.
 - Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

Changes in Actuarial Assumptions and Methods:

The following assumptions have been changed since the prior valuation. Rationale for these changes are presented in the July 1, 2015 through June 30, 2018 Actuarial Experience Study:

- Net Investment Return:* 7.25%; net of investment expenses.
- Employee Contribution, Additional Annuity and Matching Account Crediting Rate:* 7.25%, based on Plan provisions.
- Consumer Price Index:* Increase of 3.00% per year. Retiree COLA increases due to CPI are subject to a 3% maximum change per year for Tier 1 and 2% maximum change per year for Tier 2. The maximum COLA's are assumed to be paid for both Tier 1 and 2.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Changed Actuarial Assumptions (continued):

Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:

Salary Increases:

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Increase of 3.00% per year from the valuation date.

The annual rate of compensation increase includes: inflation at 3.00%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

| Years of Service | Rate (%) |
|-------------------------|-----------------|
| Less than 1 | 6.50 |
| 1 – 2 | 6.00 |
| 2 – 3 | 5.50 |
| 3 – 4 | 4.50 |
| 4 – 5 | 3.00 |
| 5 – 6 | 2.00 |
| 6 – 7 | 1.50 |
| 7 – 8 | 1.40 |
| 8 – 9 | 1.30 |
| 9 – 10 | 1.20 |
| 10 & over | 1.00 |

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Changed Actuarial Assumptions (continued):

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Post-Retirement Mortality Rates:

Service Retirement, Disabled retirement, and Beneficiaries

- Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table with no age adjustment for males and set back one year for females, projected generationally with the two-dimensional scale MP-2015 projection scale.

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Pre-Retirement Mortality Rates:

- Headcount-Weighted RP-2014 Employee Mortality Table multiplied by 80%, projected generationally with the two-dimensional scale MP-2015 projection scale.

| Age | Rate (%) | |
|-----|----------|--------|
| | Male | Female |
| 25 | 0.049 | 0.017 |
| 30 | 0.048 | 0.022 |
| 35 | 0.053 | 0.029 |
| 40 | 0.064 | 0.039 |
| 45 | 0.098 | 0.058 |
| 50 | 0.167 | 0.100 |
| 55 | 0.273 | 0.168 |
| 60 | 0.452 | 0.241 |
| 65 | 0.799 | 0.356 |

5% of pre-retirement deaths are assumed to be duty related, with the remaining being non-duty related. Note that generational projections beyond the base year (2014) are not reflected in the above mortality rates.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Changed Actuarial Assumptions (continued):

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Termination Rates:

| Years of Service | Rate (%) |
|-------------------------|-----------------|
| Less than 1 | 12.00 |
| 1 – 2 | 6.00 |
| 2 – 3 | 4.00 |
| 3 – 4 | 2.50 |
| 4 – 5 | 2.00 |
| 5 – 6 | 2.00 |
| 6 – 7 | 1.75 |
| 7 – 8 | 1.50 |
| 8 – 9 | 1.25 |
| 9 – 10 | 1.00 |
| 10 & Over | 0.75 |

Tier 1 Allocation of Termination Rates (%) between Ordinary Withdrawals and Vested Terminations

| Years of Service | Ordinary Withdrawals | Vested Terminations |
|-------------------------|-----------------------------|----------------------------|
| Less than 1 | 100 | 0 |
| 1 – 9 | 30 | 70 |
| 10 & Over | 15 | 85 |

Tier 2 Allocation of Termination Rates (%) between Ordinary Withdrawals and Vested Terminations

| Years of Service | Ordinary Withdrawals | Vested Terminations |
|-------------------------|-----------------------------|----------------------------|
| Less than 5 | 100 | 0 |
| 5 & Over | 15 | 85 |

Ordinary withdrawals are assumed to receive their account balance at termination. Vested terminations are assumed to receive a deferred retirement benefit. No termination is assumed after a member is first eligible to retire.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

Changed Actuarial Assumptions (continued):

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Retirement Rates:

| Age | Retirement Rates (%) | | | |
|--------------|------------------------------|--------------------------------|------------------------------|--------------------------------|
| | Tier 1 | | Tier 2 | |
| | Under 30 Years of Service | 30 or More Years of Service | Under 30 Years of Service | 30 or More Years of Service |
| 55 | 4.50 | 25.00 | 0.00 | 25.00 |
| 56 | 2.00 | 20.00 | 0.00 | 14.00 |
| 57 | 2.50 | 17.00 | 0.00 | 12.00 |
| 58 | 3.00 | 17.00 | 0.00 | 12.00 |
| 59 | 3.00 | 17.00 | 0.00 | 12.00 |
| 60 | 5.00 | 20.00 | 5.00 | 17.50 |
| 61 | 6.00 | 20.00 | 2.50 | 5.00 |
| 62 | 6.00 | 20.00 | 0.00 | 5.00 |
| 63 | 6.00 | 25.00 | 20.00 | 25.00 |
| 64 | 7.00 | 25.00 | 15.00 | 25.00 |
| 65 | 11.00 | 28.00 | 14.00 | 28.00 |
| 66 | 11.00 | 28.00 | 14.00 | 28.00 |
| 67 | 11.00 | 28.00 | 14.00 | 28.00 |
| 68 | 11.00 | 28.00 | 14.00 | 28.00 |
| 69 | 13.00 | 28.00 | 13.00 | 28.00 |
| 70 | 25.00 | 25.00 | 100.00 | 100.00 |
| 71 | 25.00 | 25.00 | 100.00 | 100.00 |
| 72 | 25.00 | 25.00 | 100.00 | 100.00 |
| 73 | 25.00 | 25.00 | 100.00 | 100.00 |
| 74 | 25.00 | 25.00 | 100.00 | 100.00 |
| 75 & Over | 100.00 | 100.00 | 100.00 | 100.00 |

Age of Spouse:

Female retirees are 3 years younger than their spouses.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

**Changed Actuarial Assumptions
(continued):**

Additional Service Accrual:

The following assumptions have been changed since the prior valuation as a result of the July 1, 2015 through June 30, 2018 Actuarial Experience Study (continued):

Tier 1 members are assumed to purchase an additional 0.10 years of service per year. Tier 2 members are assumed to purchase an additional 0.03 years of service per year. These service purchases exclude those priced at full actuarial cost.

The valuation reflects expected future member contributions that are associated with these assumed service purchases.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX A

**Calculation of Discount Rate as of June 30, 2019
Projection of Plan's Fiduciary Net Position (\$ in millions)**

| Year Beginning July 1, | Projected Beginning Plan's Fiduciary Net Position (a) | Projected Total Contributions (b) | Projected Benefit Payments (c) | Projected Investment Earnings (d) | Projected Ending Plan's Fiduciary Net Position (e) = (a) + (b) - (c) + (d) |
|-------------------------------|--|--|---------------------------------------|--|---|
| 2019 | \$12,987 | \$502 | \$664 | \$903 | \$13,729 |
| 2020 | 13,729 | 470 | 701 | 953 | 14,451 |
| 2021 | 14,451 | 433 | 746 | 1,001 | 15,139 |
| 2022 | 15,139 | 426 | 791 | 1,047 | 15,821 |
| 2023 | 15,821 | 448 | 834 | 1,094 | 16,528 |
| 2024 | 16,528 | 395 | 877 | 1,140 | 17,186 |
| 2025 | 17,186 | 297 | 919 | 1,181 | 17,745 |
| 2026 | 17,745 | 266 | 960 | 1,218 | 18,270 |
| 2027 | 18,270 | 223 | 999 | 1,252 | 18,745 |
| 2028 | 18,745 | 206 | 1,038 | 1,283 | 19,195 |
| 2044 | 23,107 | 117 | 1,680 | 1,563 | 23,106 |
| 2045 | 23,106 | 107 | 1,711 | 1,561 | 23,064 |
| 2046 | 23,064 | 97 | 1,742 | 1,557 | 22,976 |
| 2047 | 22,976 | 86 | 1,772 | 1,549 | 22,839 |
| 2048 | 22,839 | 73 | 1,804 | 1,538 | 22,646 |
| 2093 | 19,089 | 0 | 126 | 1,332 | 20,295 |
| 2094 | 20,295 | 0 | 103 | 1,417 | 21,610 |
| 2095 | 21,610 | 0 | 83 | 1,510 | 23,037 |
| 2096 | 23,037 | 0 | 66 | 1,610 | 24,581 |
| 2097 | 24,581 | 0 | 52 | 1,719 | 26,249 |
| 2131 | 243,638 | 0 | 0 * | 17,055 | 260,692 |
| 2132 | 260,692 | | | | |
| 2132 Discounted Value: | 125 ** | | | | |

* Less than \$1 million, when rounded.

** \$260,692 million when discounted with interest at the rate of 7.00% per annum has a value of \$125 million as of June 30, 2019.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX A (continued)

**Calculation of Discount Rate as of June 30, 2019
Projection of Pension Plan's Fiduciary Net Position (\$ in millions)**

Notes:

- (1) Amounts may not total exactly due to rounding.
 - (2) Years 2029-2043, 2049-2092, and 2098-2130 have been omitted from this table.
 - (3) Column (a): Except for the "discounted value" shown for 2132, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
 - (4) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2019), plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.
 - (5) Column (c): Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2019. The projected benefit payments reflect the cost of living increase assumptions used in the July 1, 2019 valuation report. The projected benefit payments are assumed to occur halfway through the year, on average.
 - (6) Column (d): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
 - (7) Throughout the projection, administrative expenses are not shown as they are expected to be offset by additional employer contributions above those shown in this projection.
 - (8) As illustrated in this Appendix, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2019 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.
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SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX B

**Calculation of Discount Rate as of June 30, 2018
Projection of Plan's Fiduciary Net Position (\$ in millions)**

| Year Beginning July 1, | Projected Beginning Plan's Fiduciary Net Position (a) | Projected Total Contributions (b) | Projected Benefit Payments (c) | Projected Investment Earnings (d) | Projected Ending Plan's Fiduciary Net Position (e) = (a) + (b) - (c) + (d) |
|---------------------------------------|--|--|---|--|---|
| 2018 | \$12,277 | \$495 | \$624 | \$885 | \$13,034 |
| 2019 | 13,034 | 479 | 659 | 938 | 13,792 |
| 2020 | 13,792 | 444 | 704 | 991 | 14,523 |
| 2021 | 14,523 | 403 | 750 | 1,040 | 15,217 |
| 2022 | 15,217 | 393 | 796 | 1,089 | 15,902 |
| 2023 | 15,902 | 411 | 841 | 1,137 | 16,610 |
| 2024 | 16,610 | 357 | 886 | 1,185 | 17,266 |
| 2025 | 17,266 | 258 | 930 | 1,227 | 17,822 |
| 2026 | 17,822 | 226 | 973 | 1,265 | 18,339 |
| 2027 | 18,339 | 181 | 1,015 | 1,299 | 18,805 |
| 2043 | 22,532 | 90 | 1,701 | 1,575 | 22,496 |
| 2044 | 22,496 | 82 | 1,729 | 1,571 | 22,422 |
| 2045 | 22,422 | 73 | 1,758 | 1,564 | 22,301 |
| 2046 | 22,301 | 64 | 1,786 | 1,554 | 22,133 |
| 2047 | 22,133 | 55 | 1,812 | 1,541 | 21,917 |
| 2092 | 21,368 | 0 | 133 | 1,544 | 22,779 |
| 2093 | 22,779 | 0 | 110 | 1,647 | 24,316 |
| 2094 | 24,316 | 0 | 90 | 1,760 | 25,985 |
| 2095 | 25,985 | 0 | 73 | 1,881 | 27,794 |
| 2096 | 27,794 | 0 | 58 | 2,013 | 29,748 |
| 2131 | 319,757 | 0 | 0 * | 23,182 | 342,940 |
| 2132 | 342,940 | | | | |
| 2132 Discounted Value: | 117 ** | | | | |

* Less than \$1 million, when rounded.

** \$342,940 million when discounted with interest at the rate of 7.25% per annum has a value of \$117 million as of June 30, 2018.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX B (continued)

**Calculation of Discount Rate as of June 30, 2018
Projection of Pension Plan's Fiduciary Net Position (\$ in millions)**

Notes:

- (1) Amounts may not total exactly due to rounding.
 - (2) Years 2028-2042, 2048-2091, and 2097-2130 have been omitted from this table.
 - (3) Column (a): Except for the "discounted value" shown for 2132, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
 - (4) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2018), plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.
 - (5) Column (c): Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2018. The projected benefit payments reflect the cost of living increase assumptions used in the July 1, 2018 valuation report. The projected benefit payments are assumed to occur halfway through the year, on average.
 - (6) Column (d): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.
 - (7) Throughout the projection, administrative expenses are not shown as they are expected to be offset by additional employer contributions above those shown in this projection.
 - (8) As illustrated in this Appendix, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2018 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.
-

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C Glossary of Terms

Definitions of certain terms *as they are used in Statement 68*; the terms may have different meanings in other contexts.

Active employees

Individuals employed at the end of the reporting or measurement period, as applicable.

Actual contributions

Cash contributions recognized as additions to a pension Plan's Fiduciary Net Position.

Actuarial present value of projected benefit payments

Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.

Actuarial valuation

The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.

Actuarial valuation date

The date as of which an actuarial valuation is performed.

Actuarially determined contribution

A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Ad hoc cost-of-living adjustments (ad hoc COLAs)

Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Agent employer

An employer whose employees are provided with pensions through an agent multiple-employer defined benefit pension plan.

Agent multiple-employer defined benefit pension plan (agent pension plan)

A multiple-employer defined benefit pension plan in which pension plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.

Automatic cost-of-living adjustments (automatic COLAs)

Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Automatic postemployment benefit changes

Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Closed period

A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Collective deferred outflows of resources and deferred inflows of resources related to pensions

Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.

Collective Net Pension Liability

The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.

Collective pension expense

Pension expense arising from certain changes in the collective Net Pension Liability.

Contributions

Additions to a pension Plan's Fiduciary Net Position for amounts from employers, nonemployer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.

Cost-of-living adjustments

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-sharing employer

An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.

Cost-sharing multiple-employer defined benefit pension plan (cost-sharing pension plan)

A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Covered payroll

The payroll on which contributions to a pension plan are based.

Defined benefit pension plans

Pension plans that are used to provide defined benefit pensions.

Defined benefit pensions

Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 68.)

Defined contribution pension plans

Pension plans that are used to provide defined contribution pensions.

Defined contribution pensions

Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Discount rate

The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:

1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan's Fiduciary Net Position is projected (under the requirements of Statement 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.
2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

Entry age actuarial cost method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the *normal cost*. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the *actuarial accrued liability*.

Inactive employees

Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.

Measurement period

The period between the prior and the current measurement dates.

Multiple-employer defined benefit pension plan

A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Net Pension Liability

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan.

Nonemployer contributing entities

Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement 68, employees are not considered nonemployer contributing entities.

Other postemployment benefits

All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.

Pension plans

Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed, and benefits are paid as they come due.

Pensions

Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.

Plan members

Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).

Postemployment

The period after employment.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Postemployment benefit changes

Adjustments to the pension of an inactive employee.

Postemployment healthcare benefits

Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.

Projected benefit payments

All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.

Public employee retirement system

A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.

Real rate of return

The rate of return on an investment after adjustment to eliminate inflation.

Service costs

The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.

Single employer

An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.

Single-employer defined benefit pension plan (single-employer pension plan)

A defined benefit pension plan that is used to provide pensions to employees of only one employer.

SECTION 3: Actuarial Assumptions and Methods and Appendices for the Los Angeles Department of Water and Power

APPENDIX C (continued)

Glossary of Terms

Special funding situations

Circumstances in which a nonemployer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists:

1. The amount of contributions for which the nonemployer entity legally is responsible is *not* dependent upon one or more events or circumstances unrelated to the pensions.
2. The nonemployer entity is the only entity with a legal obligation to make contributions directly to a pension plan.

Termination benefits

Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.

Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 68.

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