

Los Angeles Department of Water and Power

**Governmental Accounting Standards (GAS) 68
Actuarial Valuation Based on June 30, 2016
Measurement Date for Employer Reporting
as of June 30, 2017**

The logo for Segal Consulting is a large, dark blue, stylized arrow pointing to the right. The arrow has a white star-like symbol at its tail. The text "Segal Consulting" is written in white, sans-serif font across the middle of the arrow's shaft.

Segal Consulting

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. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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100 Montgomery Street Suite 500 San Francisco, CA 94104-4308
T 415.263.8200 www.segalco.com

September 29, 2017

*Ms. Ann Santilli
Assistant Chief Financial Officer & Controller
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 Standard (GAS) 68 Actuarial Valuation based on a June 30, 2016 measurement date for employer reporting as of June 30, 2017. It contains various information that will need to be disclosed in order to comply with GAS 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Los Angeles Department of Water and Power (LADWP) to assist 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 John Monroe, ASA, 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 Consulting, a Member of The Segal Group, Inc.

By:



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



*John Monroe, ASA, MAAA, EA
Vice President and Actuary*

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

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standard (GAS) 68 for employer reporting as of June 30, 2017. 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, 2016. 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, 2016, provided by the Retirement Office;
- The assets of the WPERP as of June 30, 2016, provided by the Retirement Office;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

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 can still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as 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.

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- For this report, the reporting dates for the employer are June 30, 2017 and June 30, 2016. The NPL was measured as of June 30, 2016 and June 30, 2015, respectively, and determined based upon the results of the actuarial valuations as of July 1, 2016 and July 1, 2015, 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, 2016 and June 30, 2015 are not adjusted or rolled forward to the June 30, 2017 and June 30, 2016 reporting dates, respectively.

Significant Issues in Valuation Year

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

- The NPL increased from \$1.14 billion as of June 30, 2015 to \$2.19 billion as of June 30, 2016 primarily due to the less than 1% return on market value of assets during 2015/2016 (that was less than the assumed return of 7.50%) and to changes in actuarial assumptions. The \$2.19 billion NPL was measured using the new actuarial assumptions and the NPL would have been lower by \$723 million if measured using the old assumptions. Changes in these values during the last two fiscal years ending June 30, 2016 and June 30, 2015 can be found in Exhibit 5.
- The discount rate used to measure the TPL and NPL as of June 30, 2016 and 2015 was 7.25% and 7.50%, respectively, following the same assumptions used by the WPERP in the funding valuations as of July 1, 2016 and July 1, 2015. 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.
- The NPL has been allocated based on the projected compensation for each entity for the year following the measurement date. Starting with the June 30, 2017 reporting, 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. In prior years, each member was identified as either under Water or Power. The NPL allocation can be found in Exhibit 7 in Section 2.
- Results shown in this report exclude any employer contributions made after the measurement date of June 30, 2016. The LADWP should consult with their auditors to determine the deferred outflow that should be created for these contributions.

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Summary of Key Valuation Results

Reporting Date for Employer under GAS 68	6/30/2017⁽¹⁾	6/30/2016⁽¹⁾
Measurement Date for Employer under GAS 68	6/30/2016	6/30/2015
Disclosure elements for fiscal year ending June 30:		
1. Service cost ⁽²⁾	\$209,832,859	\$214,735,027
2. Total Pension Liability	12,289,229,001	11,218,445,567
3. Plan's Fiduciary Net Position ⁽³⁾	10,097,842,728	10,074,300,269
4. Net Pension Liability (2) – (3)	2,191,386,273	1,144,145,298
5. Pension expense	315,822,570	-33,414,842
Schedule of contributions for fiscal year ending June 30:		
6. Actuarially determined contributions ⁽⁴⁾	\$368,599,924	\$387,464,759
7. Actual contributions	362,359,894	376,902,022
8. Contribution deficiency (excess) (6) – (7)	6,240,030	10,562,737
Demographic data for plan year ending June 30:		
9. Number of retired members and beneficiaries	9,265	8,843
10. Number of vested terminated members ⁽⁵⁾	1,612	1,528
11. Number of active members	9,348	9,205
Key assumptions as of June 30:		
12. Investment rate of return	7.25%	7.50%
13. Inflation rate	3.00%	3.25%
14. Projected salary increases ⁽⁶⁾	4.50% to 10.00%, varying by service, including inflation	4.75% to 10.00%, varying by service, including inflation

⁽¹⁾ The reporting dates and measurement dates for the plan are June 30, 2016 and 2015, respectively.

⁽²⁾ Please note that the service cost is always based on the previous year's assumptions, meaning both the 2016 and 2015 values are based on those assumptions shown as of June 30, 2015.

⁽³⁾ The June 30, 2016 value has been changed from our GAS 67 June 30, 2016 report to match the final audited financial statements as of June 30, 2016.

⁽⁴⁾ 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 the new actuarial assumptions adopted by the Board effective with the July 1, 2014 valuation.

⁽⁵⁾ Includes terminated members due a refund of member contributions and members receiving PTD benefits.

⁽⁶⁾ Includes inflation at 3.00% and 3.25% plus real across-the-board salary increases of 0.50% and 0.75% plus merit and promotional increases that vary by service as of June 30, 2016 and 2015, respectively.

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

Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting (“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 valuation 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.
- 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.

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

- 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 Consulting 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 (LADWP) 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, 2016, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	9,265
Vested terminated members entitled to, but not yet receiving benefits ⁽¹⁾	1,612
Active members	<u>9,348</u>
Total	20,225

⁽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 service or at age 55 with 10 or more years of service credit acquired in the last 12 years prior to retirement. A Tier 1 member with 30 years of service is eligible to retire regardless of age. Tier 2 members are eligible to retire once they attain the age of 60 with 10 or more years of service or

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at any age with 30 years of 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. 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:

- 2.0% at age 55 with 30 years of Qualifying Service
- 1.5% at age 60 with 10 years of Qualifying Service
- 2.0% at age 63 with 10 years of Qualifying Service
- 2.1% at age 63 with 30 years of Qualifying Service

Reduced early retirement benefits are still available at any age (under 55) with 30 years of service and the reduction factors are the same as Tier 1. Note that these reduction factors continue to include the reduction from age 60 to 55 and from 55 to age at retirement.

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.

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

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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 who retired under the Formula Pension. 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-Riverside-Orange County 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, 2016 (based on the July 1, 2015 valuation) was 42.77% 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, 2016 (based on the July 1, 2015 valuation) was 6.80% of compensation. Most Tier 1 members contribute at 6% of compensation and all Tier 2 members contribute at 10% of compensation.

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EXHIBIT 2

Net Pension Liability

Reporting Date for Employer under GAS 68	June 30, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
The components of the Net Pension Liability are as follows:		
Total Pension Liability	\$12,289,229,001	\$11,218,445,567
Plan's Fiduciary Net Position	<u>(10,097,842,728)</u>	<u>(10,074,300,269)</u>
Net Pension Liability	\$2,191,386,273	\$1,144,145,298
Plan's Fiduciary Net Position as a Percentage of the Total Pension Liability	82.17%	89.80%

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2016 and 2015. 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, 2016 and 2015, 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, 2016 and 2015, respectively.

Actuarial assumptions. The TPL as of June 30, 2016 was determined by an actuarial valuation as of July 1, 2016. The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an experience study for the period from July 1, 2012 through June 30, 2015. They are the same as the assumptions used in the July 1, 2016 funding actuarial valuation for the WPERP. The assumptions are outlined on page 9 of this report. In particular, the following assumptions were applied to all periods included in the June 30, 2016 measurement:

Inflation	3.00%
Salary increases	4.50% to 10.00%, vary 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, 2016 funding valuation

The TPL as of June 30, 2015 was determined by an actuarial valuation as of July 1, 2015. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2015 measurement:

Inflation	3.25%
Salary increases	4.75% to 10.00%, vary by service, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation
Other assumptions	Same as those used in the July 1, 2015 funding valuation

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

EXHIBIT 3

Target Asset Allocation

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. 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 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity	29%	5.76%
International Equity	19%	7.25%
Custom Fixed Income	25%	1.74%
Real Estate	8%	4.37%
Real Return	5%	2.39%
Private Equity	8%	7.75%
Hedge Funds	5%	3.50%
Cash and Cash Equivalents	1%	-0.46%
Total	100%	

Discount rate. The discount rates used to measure the Total Pension Liability (TPL) were 7.25% and 7.50% as of June 30, 2016 and June 30, 2015, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined 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, 2016 and June 30, 2015.

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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 Net Pension Liability (NPL) of the WPERP as of June 30, 2016, calculated using the discount rate of 7.25%, as well as what the WPERP's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

Net Pension Liability	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Water	\$1,232,837,941	\$698,878,038	\$257,742,160
Power	<u>2,632,821,006</u>	<u>1,492,508,235</u>	<u>550,428,365</u>
Total for all Entities	\$3,865,658,947	\$2,191,386,273	\$808,170,525

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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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Total Pension Liability		
1. Service Cost	\$209,832,859	\$214,735,027
2. Interest	837,977,695	821,047,664
3. Change of benefit terms	0	(144,007,904)
4. Differences between expected and actual experience	(189,469,795)	(162,912,927)
5. Changes of assumptions	722,927,661	0
6. Benefit payments, including refunds of member contributions	<u>(510,484,986)</u>	<u>(485,966,910)</u>
7. Net change in Total Pension Liability	\$1,070,783,434	\$242,894,950
8. Total Pension Liability – beginning	<u>\$11,218,445,567</u>	<u>\$10,975,550,617</u>
9. Total Pension Liability – ending (7) + (8)	<u>\$12,289,229,001</u>	<u>\$11,218,445,567</u>
Plan’s fiduciary net position		
10. Contributions – employer (including those for administrative expenses)	\$368,259,056	\$382,231,868
11. Contributions – employee	75,068,523	68,552,375
12. Net investment income	95,807,981	410,778,109
13. Benefit payments, including refunds of member contributions	(510,484,986)	(485,966,910)
14. Administrative expense	(5,108,115)	(4,612,476)
15. Other	<u>0</u>	<u>0</u>
16. Net change in Plan’s Fiduciary Net Position	\$23,542,459	\$370,982,966
17. Plan’s Fiduciary Net Position – beginning	<u>\$10,074,300,269</u>	<u>\$9,703,317,303</u>
18. Plan’s Fiduciary Net Position – ending (16) + (17)	\$10,097,842,728	\$10,074,300,269
19. Net Pension Liability – ending (9) – (18)	<u>\$2,191,386,273</u>	<u>\$1,144,145,298</u>
20. Plan’s fiduciary net position as a percentage of the Total Pension Liability (18) / (9)	82.17%	89.80%
21. Covered employee payroll	\$861,818,854	\$839,213,254
22. Plan Net Pension Liability as percentage of covered employee payroll (19) / (21)	254.27%	136.34%

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-Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2007	\$134,504,482	\$129,154,539	\$5,349,943	\$604,514,525	21.37%
2008	134,651,427	141,862,126	-7,210,699	623,674,973	22.75%
2009	141,291,588	145,941,275	-4,649,687	696,704,083	20.95%
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%

⁽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.

⁽³⁾ Actuarially Determined Contributions exclude employer contributions towards administrative expenses.

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 June 30, 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, 2016 Valuation Date</u>	<u>July 1, 2015 Valuation Date</u>
Actuarial assumptions:		
Investment rate of return	7.25%, net of investment expenses	7.50%, net of investment expenses
Inflation rate	3.00%	3.25%
Real across-the-board salary increase	0.50%	0.75%
Projected salary increases*	4.50% to 10.00%	4.75% to 10.00%
Cost of living adjustments	3.00% (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	Healthy Post-Retirement: Head count-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	Healthy: RP-2000 Combined Healthy Mortality Table with ages set back one year projected to 2030 with Scale AA
Other assumptions	Same as those used in the July 1, 2016 funding actuarial valuation	Same as those used in the July 1, 2015 funding actuarial valuation

* Includes inflation at 3.00% and 3.25% plus real across-the-board salary increases of 0.50% and 0.75% plus merit and promotional increases as of July 1, 2016 and 2015, 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, 2016 to June 30, 2017</u>		
<u>Entity</u>	<u>Projected Compensation</u>	<u>Proportionate Share as of June 30, 2016 Measurement Date</u>
Water	\$296,241,656	31.892%
Power	<u>632,647,024</u>	<u>68.108%</u>
Total	\$928,888,680	100.000%

Notes:

Projected July 1, 2016 through June 30, 2017 compensation information is based on the July 1, 2016 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, 2017. The reporting date and measurement date for the plan under GAS 67 are June 30, 2016. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2016 are not adjusted or "rolled forward" to June 30, 2017. 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, 2015 to June 30, 2016</u>	
<u>Entity</u>	<u>Projected Compensation</u>	<u>Proportionate Share as of June 30, 2015 Measurement Date</u>
Water	\$300,200,542	32.603%
Power	<u>620,580,532</u>	<u>67.397%</u>
Total	\$920,781,074	100.000%

Notes:

Projected July 1, 2015 through June 30, 2016 compensation information is based on the July 1, 2015 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, 2016. The reporting date and measurement date for the plan under GAS 67 are June 30, 2015. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2015 are not adjusted or "rolled forward" to June 30, 2016. 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, 2014 to June 30, 2015</u>	
<u>Entity</u>	<u>Projected Compensation</u>	<u>Proportionate Share as of June 30, 2014 Measurement Date</u>
Water	\$291,132,426	32.344%
Power	<u>608,993,848</u>	<u>67.656%</u>
Total	\$900,126,274	100.000%

Notes:

Projected July 1, 2014 through June 30, 2015 compensation information is based on the July 1, 2014 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, 2015. The reporting date and measurement date for the plan under GAS 67 are June 30, 2014. Consistent with the provisions of GAS 68, the assets and liabilities as of June 30, 2014 are not adjusted or "rolled forward" to June 30, 2015. 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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Components of Pension Expense		
1. Service cost	\$209,832,859	\$214,735,027
2. Interest on the Total Pension Liability	837,977,695	821,047,664
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	(144,007,904)
5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(33,534,477)	(29,782,985)
6. Expensed portion of current-period changes of assumptions or other inputs	127,951,798	0
7. Member contributions	(75,068,523)	(68,552,375)
8. Projected earnings on plan investments	(752,862,563)	(726,256,480)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	131,410,916	63,095,674
10. Administrative expense	5,108,115	4,612,476
11. Other	0	0
12. Recognition of beginning of year deferred outflows of resources as pension expense	165,521,390	102,425,716
13. Recognition of beginning of year deferred inflows of resources as pension expense	(300,514,640)	(270,731,655)
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>\$315,822,570</u>	<u>\$(33,414,842)</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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Components of Pension Expense		
1. Service cost	\$66,920,003	\$70,009,661
2. Interest on the Total Pension Liability	267,248,278	267,684,644
3. Expensed portion of current-period changes in proportion and differences between entity's contributions and proportionate share of contributions	(1,419,058)	1,120,470
4. Current-period benefit changes	0	(46,950,629)
5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(10,694,833)	(9,710,091)
6. Expensed portion of current-period changes of assumptions or other inputs	40,806,453	0
7. Member contributions	(23,940,892)	(22,350,003)
8. Projected earnings on plan investments	(240,103,316)	(236,780,050)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	41,909,637	20,570,965
10. Administrative expense	1,629,083	1,503,797
11. Other	0	0
12. Recognition of beginning of year deferred outflows of resources as pension expense	52,788,167	33,393,666
13. Recognition of beginning of year deferred inflows of resources as pension expense	(95,840,284)	(88,266,138)
14. Net amortization of deferred amounts from changes in proportion and differences between entity's contributions and proportionate share of contributions	<u>2,111,952</u>	<u>991,482</u>
Pension Expense	<u>\$101,415,190</u>	<u>\$(8,782,226)</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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Components of Pension Expense		
1. Service cost	\$142,912,856	\$144,725,366
2. Interest on the Total Pension Liability	570,729,417	553,363,020
3. Expensed portion of current-period changes in proportion and differences between entity's contributions and proportionate share of contributions	1,419,058	(1,120,470)
4. Current-period benefit changes	0	(97,057,275)
5. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(22,839,644)	(20,072,894)
6. Expensed portion of current-period changes of assumptions or other inputs	87,145,345	0
7. Member contributions	(51,127,631)	(46,202,372)
8. Projected earnings on plan investments	(512,759,247)	(489,476,430)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	89,501,279	42,524,709
10. Administrative expense	3,479,032	3,108,679
11. Other	0	0
12. Recognition of beginning of year deferred outflows of resources as pension expense	112,733,223	69,032,050
13. Recognition of beginning of year deferred inflows of resources as pension expense	(204,674,356)	(182,465,517)
14. Net amortization of deferred amounts from changes in proportion and differences between entity's contributions and proportionate share of contributions	<u>(2,111,952)</u>	<u>(991,482)</u>
Pension Expense	<u>\$214,407,380</u>	<u>\$(24,632,616)</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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Deferred Outflows of Resources		
1. Changes in proportion and differences between entity's contributions and proportionate share of contributions ⁽¹⁾	\$12,858,500	\$9,049,824
2. Changes of assumptions or other inputs	813,142,636	320,592,489
3. Net excess of projected over actual earnings on pension plan investments (if any)	340,501,529	0
4. Difference between expected and actual experience in the Total Pension Liability	<u>0</u>	<u>0</u>
5. Total Deferred Outflows of Resources	<u>\$1,166,502,665</u>	<u>\$329,642,313</u>
Deferred Inflows of Resources		
6. Changes in proportion and differences between entity's contributions and proportionate share of contributions ⁽¹⁾	\$12,858,500	\$9,049,824
7. Changes of assumptions or other inputs	0	0
8. Net excess of actual over projected earnings on pension plan investments (if any)	0	344,001,112
9. Difference between expected and actual experience in the Total Pension Liability	<u>346,521,619</u>	<u>269,146,292</u>
10. Total Deferred Inflows of Resources	<u>\$359,380,119</u>	<u>\$622,197,228</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:		
2017	N/A	\$(134,993,250)
2018	\$90,834,986	(134,993,251)
2019	174,537,952	(51,290,285)
2020	268,548,110	42,719,873
2021	211,830,237	(13,998,002)
2022	61,371,261	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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Deferred Outflows of Resources		
1. Changes in proportion and differences between entity's contributions and proportionate share of contributions ⁽¹⁾	\$5,537,824	\$7,988,771
2. Changes of assumptions or other inputs	259,327,868	104,522,173
3. Net excess of projected over actual earnings on pension plan investments (if any)	108,592,923	0
4. Difference between expected and actual experience in the Total Pension Liability	<u>0</u>	<u>0</u>
5. Total Deferred Outflows of Resources	<u>\$373,458,615</u>	<u>\$112,510,944</u>
Deferred Inflows of Resources		
6. Changes in proportion and differences between entity's contributions and proportionate share of contributions ⁽¹⁾	\$7,320,676	\$1,061,053
7. Changes of assumptions or other inputs	0	0
8. Net excess of actual over projected earnings on pension plan investments (if any)	0	112,154,043
9. Difference between expected and actual experience in the Total Pension Liability	<u>110,512,853</u>	<u>87,749,265</u>
10. Total Deferred Inflows of Resources	<u>\$117,833,529</u>	<u>\$200,964,361</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:		
2017	N/A	\$(41,899,646)
2018	\$29,662,034	(41,899,647)
2019	55,345,467	(15,621,285)
2020	85,302,845	15,004,283
2021	66,664,571	(4,037,122)
2022	18,650,169	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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Deferred Outflows of Resources		
1. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾	\$7,320,676	\$1,061,053
2. Changes of assumptions or other inputs	553,814,768	216,070,316
3. Net excess of projected over actual earnings on pension plan investments (if any)	231,908,606	0
4. Difference between expected and actual experience in the Total Pension Liability	<u>0</u>	<u>0</u>
5. Total Deferred Outflows of Resources	<u>\$793,044,050</u>	<u>\$217,131,369</u>
Deferred Inflows of Resources		
6. Changes in proportion and differences between entity’s contributions and proportionate share of contributions ⁽¹⁾	\$5,537,824	\$7,988,771
7. Changes of assumptions or other inputs	0	0
8. Net excess of actual over projected earnings on pension plan investments (if any)	0	231,847,069
9. Difference between expected and actual experience in the Total Pension Liability	<u>236,008,766</u>	<u>181,397,027</u>
10. Total Deferred Inflows of Resources	<u>\$241,546,590</u>	<u>\$421,232,867</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:		
2017	N/A	\$(93,093,604)
2018	\$61,172,952	(93,093,604)
2019	119,192,485	(35,669,000)
2020	183,245,265	27,715,590
2021	145,165,666	(9,960,880)
2022	42,721,092	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, 2016. 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 5.65 years determined as of July 1, 2015 (the beginning of the measurement period ended June 30, 2016). 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, 2016 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 in flows of resources 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-employee payroll⁽¹⁾	Proportionate share of the Net Pension Liability as a percentage of its covered-employee 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%

⁽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-employee payroll	Proportionate share of the Net Pension Liability as a percentage of its covered-employee 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%

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-employee payroll	Proportionate share of the Net Pension Liability as a percentage of its covered-employee 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%

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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Reconciliation of Net Pension Liability		
1. Beginning Net Pension Liability	\$1,144,145,298	\$1,272,233,314
2. Pension Expense	315,822,570	(33,414,842)
3. Employer Contributions	(368,259,056)	(382,231,868)
4. New Net Deferred Inflows/Outflows	964,684,211	119,252,755
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	134,993,250	168,305,939
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	<u>0</u>	<u>0</u>
9. Ending Net Pension Liability	<u>\$2,191,386,273</u>	<u>\$1,144,145,298</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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Reconciliation of Net Pension Liability		
1. Beginning Net Pension Liability	\$373,023,565	\$411,484,901
2. Pension Expense	101,415,190	(8,782,226)
3. Employer Contributions	(119,639,220)	(125,944,093)
4. New Net Deferred Inflows/Outflows	307,657,585	38,879,754
5. Change in Allocation of Prior Deferred Inflows/Outflows	2,079,371	(1,504,262)
6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾	(6,598,618)	5,008,501
7. Recognition of Prior Deferred Inflows/Outflows	43,052,117	54,872,472
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	<u>(2,111,952)</u>	<u>(991,482)</u>
9. Ending Net Pension Liability	<u>\$698,878,038</u>	<u>\$373,023,565</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, 2017	June 30, 2016
Measurement Date for Employer under GAS 68	June 30, 2016	June 30, 2015
Reconciliation of Net Pension Liability		
1. Beginning Net Pension Liability	\$771,121,733	\$860,748,413
2. Pension Expense	214,407,380	(24,632,616)
3. Employer Contributions	(248,619,836)	(256,287,775)
4. New Net Deferred Inflows/Outflows	657,026,626	80,373,001
5. Change in Allocation of Prior Deferred Inflows/Outflows	(2,079,371)	1,504,262
6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾	6,598,618	(5,008,501)
7. Recognition of Prior Deferred Inflows/Outflows	91,941,133	113,433,467
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	<u>2,111,952</u>	<u>991,482</u>
9. Ending Net Pension Liability	<u>\$1,492,508,235</u>	<u>\$771,121,733</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 Expected and Actual Experience on Total Pension Liability

Reporting Date for Employer under GAS 68 Year Ended June 30	Differences Between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GAS 68 Year Ended June 30						
			2016	2017	2018	2019	2020	2021	2022
2014	\$(98,062,638)	5.24	\$(18,714,244)	\$(18,714,244)	\$(18,714,244)	\$(4,491,418)	\$0	\$0	\$0
2015	(154,221,968)	5.13	(30,062,762)	(30,062,762)	(30,062,762)	(30,062,762)	(3,908,158)	0	0
2016	(162,912,927)	5.47	(29,782,985)	(29,782,985)	(29,782,985)	(29,782,985)	(29,782,985)	(13,998,002)	0
2017	(189,469,795)	5.65	0	(33,534,477)	(33,534,477)	(33,534,477)	(33,534,477)	(33,534,477)	(21,797,410)
Net increase (decrease) in pension expense			\$(78,559,991)	\$(112,094,468)	\$(112,094,468)	\$(97,871,642)	\$(67,225,620)	\$(47,532,479)	\$(21,797,410)

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						
			2016	2017	2018	2019	2020	2021	2022
2014	\$0	5.24	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2015	525,443,921	5.13	102,425,716	102,425,716	102,425,716	102,425,716	13,315,341	0	0
2016	0	5.47	0	0	0	0	0	0	0
2017	722,927,661	5.65	0	127,951,798	127,951,798	127,951,798	127,951,798	127,951,798	83,168,671
Net increase (decrease) in pension expense			\$102,425,716	\$230,377,514	\$230,377,514	\$230,377,514	\$141,267,139	\$127,951,798	\$83,168,671

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, 2015 (the beginning of the measurement period ending June 30, 2016) is 5.65 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						
			2016	2017	2018	2019	2020	2021	2022
2014	\$(347,400,696)	5.00	\$(69,480,139)	\$(69,480,139)	\$(69,480,140)	\$0	\$0	\$0	\$0
2015	(762,372,550)	5.00	(152,474,510)	(152,474,510)	(152,474,510)	(152,474,510)	0	0	0
2016	315,478,371	5.00	63,095,674	63,095,674	63,095,674	63,095,674	63,095,675	0	0
2017	657,054,582	5.00	0	131,410,916	131,410,916	131,410,916	131,410,916	131,410,918	0
Net increase (decrease) in pension expense			\$(158,858,975)	\$(27,448,059)	\$(27,448,060)	\$42,032,080	\$194,506,591	\$131,410,918	\$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						
		2016	2017	2018	2019	2020	2021	2022
2014	\$(445,463,334)	\$(88,194,383)	\$(88,194,383)	\$(88,194,384)	\$(4,491,418)	\$0	\$0	\$0
2015	(391,150,597)	(80,111,556)	(80,111,556)	(80,111,556)	(80,111,556)	9,407,183	0	0
2016	152,565,444	33,312,689	33,312,689	33,312,689	33,312,689	33,312,690	(13,998,002)	0
2017	1,190,512,448	0	225,828,237	225,828,237	225,828,237	225,828,237	225,828,239	61,371,261
Net increase (decrease) in pension expense		\$(134,993,250)	\$90,834,987	\$90,834,986	\$174,537,952	\$268,548,110	\$211,830,237	\$61,371,261

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, 2016. 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, 2016 is recognized over the same period. These amounts are shown below. 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, 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

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

The corresponding amounts for the measurement periods ending on June 30, 2015, June 30, 2014, and June 30, 2013 are as follows:

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, 2016 Measurement Date and Employer Reporting as of June 30, 2017

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, 2012 through June 30, 2015 Actuarial Experience Study dated May 23, 2016. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 2 members.

Economic Assumptions:

Net Investment Return:

7.25%, net of investment expenses.

Consumer Price Index:

Increase of 3.00% per year; benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% for Tier 2. The maximum COLA's are assumed to be paid for both Tier 1 and 2.

Employee Contribution, Additional Annuity and Matching Account

Crediting Rate:

7.50%, based on Plan provisions

Administration Expenses:

Offset by additional employer contributions.

Increase in Internal Revenue Code

Section 401(a)(17) Compensation Limit:

Increase of 3.00% per year from the valuation date.

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

Demographic Assumptions:

Mortality Rates:

<i>Pre-retirement:</i>	Head count-weighted RP-2014 Employee Mortality Table times 80%, projected generationally with the two-dimensional MP-2015 projection scale.
<i>After Service Retirement:</i>	Head count-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.
<i>After Disability Retirement:</i>	Head count-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.

The RP-2014 mortality tables and adjustments as shown above reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

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

Termination Rates Before Retirement:

Rate (%)		
Male		
Age	Mortality*	Disability
25	0.049	0.006
30	0.048	0.012
35	0.053	0.012
40	0.064	0.018
45	0.098	0.030
50	0.167	0.054
55	0.273	0.126
60	0.452	0.240
65	0.779	0.000

Female		
Age	Mortality*	Disability
25	0.017	0.000
30	0.022	0.006
35	0.029	0.036
40	0.039	0.072
45	0.058	0.102
50	0.100	0.138
55	0.168	0.168
60	0.241	0.000
65	0.356	0.000

* 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

Withdrawal Rates:

<u>Years of Service</u>	<u>Total Withdrawal*</u>
Less than 1	12.00%
1	6.00%
2	4.00%
3	2.50%
4	2.00%
5	2.00%
6	1.75%
7	1.50%
8	1.25%
9	1.00%
10 & over	0.75%

* No withdrawal is assumed after a member is first eligible to retire. Ordinary withdrawal members are assumed to receive their account balance at termination. Vested termination members are assumed to receive a deferred retirement benefit. For Tier 1 members terminating with less than one year of service, and Tier 2 members terminating with less than 15 years of service, 100% are assumed to be ordinary withdrawals. For Tier 1 members terminating with at least one year of service but less than eleven years of service, 30% are assumed to be ordinary withdrawals with the remaining 70% being vested terminations. For Tier 1 members terminating with 11 or more years of service and Tier 2 members terminating with 15 or more years of service, 15% are assumed to be ordinary withdrawals, with the remaining 85% being vested terminations.

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
55	4.50%	25.00%	0.0%	25.0%
56	2.00	20.00	0.0	14.0
57	2.50	17.00	0.0	12.0
58	3.00	17.00	0.0	12.0
59	3.00	17.00	0.0	12.0
60	5.00	20.00	5.0	17.5
61	6.00	20.00	2.5	5.0
62	6.00	20.00	0.0	5.0
63	6.00	25.00	20.0	25.0
64	7.00	25.00	15.0	25.0
65	11.00	28.00	14.0	28.0
66	11.00	28.00	14.0	28.0
67	11.00	28.00	14.0	28.0
68	11.00	28.00	14.0	28.0
69	13.00	28.00	13.0	28.0
70	25.00	25.00	100.0	100.0
71	25.00	25.00	100.0	100.0
72	25.00	25.00	100.0	100.0
73	25.00	25.00	100.0	100.0
74	25.00	25.00	100.0	100.0
75	100.00	100.00	100.0	100.0

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

Benefit for Inactive Vested Members:	For Tier 1, inactive vested members are assumed to retire at age 60 with a Money Purchase Annuity. 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. For Tier 2, inactive vested members are assumed to retire at age 63.
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:	Females are 3 years younger than their spouses.
Future Benefit Accruals:	1.0 year of service per year.
Other Government Service:	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

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.00% per year, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotional increases.

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

The merit and promotional increases are added to the sum of the inflationary and “across the board” salary increases.

Actuarial Methods:

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.

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

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:

Based on the actuarial experience study and review of economic assumptions, the following assumptions were changed. Previously, these assumptions were as follows:

Economic Assumptions:

Net Investment Return:

7.50%, net of investment expenses.

Consumer Price Index:

Increase of 3.25% per year; benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% for Tier 2.

Demographic Assumptions:

Mortality Rates:

After Service Retirement and Pre-retirement:

RP-2000 Combined Healthy Mortality Table with ages set back one year, projected to 2030 with Scale AA.

After Disability Retirement

RP-2000 Combined Healthy Mortality Table with ages set back one year, projected to 2030 with Scale AA.

The RP-2000 mortality tables projected with Scale AA to 2020 and adjusted by the applicable set back shown above reasonably reflects the projected mortality experience as of the measurement date. The additional projection to 2030 is a provision for future mortality improvement.

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

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Termination Rates Before Retirement:

Age	Rate (%)	
	Mortality*	
	Male	Female
25	0.028	0.013
30	0.036	0.018
35	0.060	0.031
40	0.080	0.041
45	0.094	0.063
50	0.116	0.093
55	0.180	0.191
60	0.367	0.382
65	0.739	0.742

* 5% of pre-retirement deaths are assumed to be duty related, with the remaining being non-duty related.

Withdrawal Rates:

Years of Service	Total Withdrawal*
Less than 1	9.00%
1	4.00%
2	3.50%
3	3.00%
4	2.75%
5	2.50%
6	2.25%
7	2.00%
8	1.75%
9	1.50%
10	1.25%
11 & over	1.00%

* No withdrawal is assumed after a member is first eligible to retire. Ordinary withdrawal members are assumed to receive their account balance at termination. Vested termination members are assumed to receive a deferred retirement benefit. For Tier 1 members terminating with less than one year of service and Tier 2 members terminating with less than 15 years of service, 100% are assumed to be ordinary withdrawals. For members terminating with more than one year of service (15 years of service for Tier 2), 15% are assumed to be ordinary withdrawals, with the remaining 85% being vested terminations.

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

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

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
55	5.0%	25.0%	0.0%	25.0%
56	3.0	18.0	0.0	12.5
57	3.0	15.0	0.0	10.0
58	3.0	15.0	0.0	10.0
59	3.0	15.0	0.0	10.0
60	5.0	20.0	5.0	17.5
61	6.0	15.0	2.5	5.0
62	6.0	15.0	0.0	5.0
63	6.0	25.0	20.0	25.0
64	7.0	20.0	15.0	20.0
65	12.0	25.0	15.0	25.0
66	12.0	25.0	15.0	25.0
67	12.0	25.0	15.0	25.0
68	12.0	25.0	15.0	25.0
69	15.0	25.0	15.0	25.0
70	30.0	30.0	100.0	100.0
71	30.0	30.0	100.0	100.0
72	30.0	30.0	100.0	100.0
73	30.0	30.0	100.0	100.0
74	30.0	30.0	100.0	100.0
75	100.0	100.0	100.0	100.0

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

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Benefit for Inactive Vested Members:

For Tier 1, inactive vested members are assumed to retire at age 60 with a Money Purchase Annuity. Members receiving Permanent Total Disability benefits are assumed to retire at the earlier of age 60 or age 55 with 30 years of service. For Tier 2, inactive vested members are assumed to retire at age 63.

Other Government Service:

Tier 1 members are assumed to purchase an additional 0.15 years of service per year. Tier 2 members are assumed to purchase an additional 0.03 years of service per year.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year, plus “across the board” salary increases of 0.75% per year, plus the following merit and promotional increases.

<u>Years of Service</u>	<u>Increase</u>
Less than 1	6.00%
1	5.50%
2	5.00%
3	4.00%
4	2.50%
5	1.50%
6	1.10%
7	1.00%
8	0.90%
9	0.80%
10 & over	0.75%

The merit and promotional increases are added to the sum of the inflationary and “across the board” salary increases.

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, 2016
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)
2016	\$10,098	\$516	\$572	\$730	\$10,773
2017	10,773	515	602	778	11,463
2018	11,463	520	639	827	12,171
2019	12,171	522	680	877	12,890
2020	12,890	504	723	927	13,599
2021	13,599	480	767	975	14,287
2022	14,287	472	812	1,023	14,970
2023	14,970	490	856	1,072	15,677
2024	15,677	436	899	1,120	16,333
2025	16,333	335	941	1,162	16,889
2041	20,837	69	1,596	1,455	20,765
2042	20,765	62	1,621	1,449	20,655
2043	20,655	55	1,643	1,440	20,508
2044	20,508	48	1,662	1,428	20,322
2045	20,322	41	1,682	1,414	20,095
2090	25,972	0	106	1,879	27,745
2091	27,745	0	87	2,008	29,666
2092	29,666	0	71	2,148	31,744
2093	31,744	0	57	2,299	33,987
2094	33,987	0	45	2,462	36,404
2119	194,725	0	0*	14,118	208,843
2120	208,843				

2120 Discounted Value: 144**

* Less than \$1 million, when rounded.

** \$208,843 million when discounted with interest at the rate of 7.25% per annum has a value of \$144 million as of June 30, 2016.

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, 2016 Projection of Pension Plan's Fiduciary Net Position (\$ in millions)

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Years 2026-2040, 2046-2089, and 2095-2118 have been omitted from this table.
- (3) Column (a): Except for the "discounted value" shown for 2120, 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, 2016), 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, 2016. The projected benefit payments reflect the cost of living increase assumptions used in the July 1, 2016 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, 2016 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 B

**Calculation of Discount Rate as of June 30, 2015
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)
2015	\$10,074	\$444	\$528	\$752	\$10,743
2016	10,743	437	559	801	11,422
2017	11,422	416	596	850	12,091
2018	12,091	402	637	898	12,755
2019	12,755	387	680	946	13,407
2020	13,407	352	726	992	14,025
2021	14,025	327	773	1,035	14,614
2022	14,614	318	820	1,077	15,189
2023	15,189	336	867	1,119	15,777
2024	15,777	280	914	1,159	16,303
2040	18,445	59	1,560	1,327	18,271
2041	18,271	52	1,579	1,313	18,057
2042	18,057	46	1,592	1,296	17,806
2043	17,806	40	1,602	1,277	17,522
2044	17,522	34	1,607	1,255	17,204
2089	30,323	0	24	2,273	32,572
2090	32,572	0	19	2,442	34,995
2091	34,995	0	14	2,624	37,605
2092	37,605	0	11	2,820	40,414
2093	40,414	0	8	3,031	43,437
2118	246,313	0	0*	18,473	264,787
2119	264,787				

2119 Discounted Value: 143**

* Less than \$1 million, when rounded.

** \$264,787 million when discounted with interest at the rate of 7.50% per annum has a value of \$143 million as of June 30, 2015.

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, 2015 Projection of Pension Plan's Fiduciary Net Position (\$ in millions)

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Years 2025-2039, 2045-2088, and 2094-2117 have been omitted from this table.
- (3) Column (a): Except for the "discounted value" shown for 2119, 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, 2015), 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, 2015. The projected benefit payments reflect the cost of living increase assumptions used in the July 1, 2015 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 7.50% 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 7.50% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2015 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-employee payroll

The payroll of employees that are provided with pensions through the pension plan.

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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