

**The Water and Power Employees'
Retirement Plan of the City of Los Angeles
Governmental Accounting Standards (GAS) 75
Actuarial Valuation and Review of the Death Benefit Fund
Based on June 30, 2017 Measurement Date for
Employer Reporting as of June 30, 2018**

- Family Death Benefit Allowance Fund
- Supplemental Family Death Benefit Allowance Fund
- Insured Lives Portion of the Death Benefit Fund



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

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October 19, 2018

*Board of Administration
The Water and Power Employees' Retirement Plan of the City of Los Angeles
111 North Hope Street, Room 357
Los Angeles, CA 90012*

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 75 Actuarial Valuation and Review of the Death Benefit Fund based on a June 30, 2017 measurement date for employer reporting as of June 30, 2018. It contains various information that will need to be disclosed in order for the two employer categories in the Department of Water and Power to comply with GAS 75.

The report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Department of Water and Power (DWP) to assist in preparing their financial report for their liabilities associated with the Death Benefit Fund. The census and financial information on which our calculations are 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 this actuarial valuation is complete and accurate. Further, in our opinion the assumptions used in this valuation and described in Section 3 are reasonably related to the experience of and expectations for the Plan.

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*

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Vice President and Actuary*

JAC/gxk

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SECTION 1: Valuation Summary for the Water and Power Employees' Death Benefit Fund

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standard (GAS) 75 for employer reporting as of June 30, 2018. The results used in preparing this GAS 75 report are comparable to those used in preparing the GAS 74 report for the Water and Power Employees' Death Benefit Fund based on a measurement date and a reporting date as of June 30, 2017. This valuation is based on:

- The benefit provisions of the Death Benefit Fund, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of March 31, 2017, provided by the Retirement Office;⁽¹⁾
- The assets of the Fund as of June 30, 2017, 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 75 Actuarial Valuation

The following points should be considered when reviewing this GAS 75 report:

- The Government Accounting Standard Board (GASB) rules only define OPEB liability and expense for financial reporting purposes, and do not apply to contribution amounts for OPEB funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring the Total OPEB Liability (TOL), GASB specifies the use of the Entry Age actuarial cost method. It also uses the same 3.50% per year expected return on Fund assets as WPERP uses for funding of the Death Benefit Fund.

⁽¹⁾ Consistent with valuation for the Retirement Plan, the service has been increased by three months to account for the difference between the date the active census data was captured (March 31) and the valuation date (June 30).

SECTION 1: Valuation Summary for the Water and Power Employees' Death Benefit Fund

- The Net OPEB Liability (NOL) is equal to the difference between the TOL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NOL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NOL reflects all investment gains and losses as of the measurement date.
- For this report, the reporting date for the employer is June 30, 2018. The NOL was measured as of June 30, 2017, and determined based upon the results of the actuarial valuation as of June 30, 2017. The Plan's Fiduciary Net Position (plan assets) and the TOL were valued as of the measurement date. Consistent with the provisions of GAS 75, the assets and liabilities measured as of June 30, 2017 are not adjusted or rolled forward to the June 30, 2018 reporting date.

Significant Issues in Valuation Year

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

- For the June 30, 2017 and 2016 measurements, we used the assumptions and methods consistent with those used by the Retirement Plan, with the exception of a 3.50% discount rate assumption and additional assumptions regarding family composition for the Family Death Benefit and Supplemental Family Death Benefit. The 3.50% discount rate is based on the Death Benefit Fund's current target asset allocation that is virtually all fixed income investments. It reflects expected real returns for that asset class as well as the 3.00% inflation assumption.
- The NOL increased from \$117.7 million as of June 30, 2016 to \$119.2 million as of June 30, 2017 primarily due to the -0.2% return on the market value of assets during 2016/2017 (that was less than the assumed return of 3.50%). Changes in these values during the last fiscal year ending June 30, 2017 can be found in Exhibit 5.
- The discount rate used to determine the TOL and NOL as of June 30, 2017 and 2016 was 3.50%. Details on the derivation of the discount rate as of June 30, 2017 can be found in Exhibit 3 of Section 2. Various other information that is required can be disclosed can be found throughout Exhibit 1 through 13 in Section 2. Summaries of the plan provisions and actuarial assumptions can be found in Section 3.
- The NOL has been allocated based on the projected compensation for each employer category for the fiscal year following the measurement date. LADWP provided us with information that indicates each member's percentage under Water versus Power and we used these percentages to determine each member's allocation between these two employer categories. The NOL 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, 2017. The LADWP should consult with their auditors to determine the deferred outflow that should be created for these contributions.

SECTION 1: Valuation Summary for the Water and Power Employees' Death Benefit Fund

Summary of Key Valuation Results

Reporting Date for Employer under GAS 75	June 30, 2018⁽¹⁾
Measurement Date for Employer under GAS 75	June 30, 2017
Disclosure elements for fiscal year ending June 30:	
Service Cost ⁽²⁾	\$3,656,610
Total OPEB Liability ⁽⁴⁾	146,808,572
Plan's Fiduciary Net Position ^{(3), (4)}	27,584,134
Net OPEB Liability ⁽⁴⁾	119,224,438
OPEB Expense	8,782,037
Schedule of contributions for fiscal year ending June 30:	
Actuarially determined contributions	\$7,137,953
Actual contributions	7,137,953
Contribution deficiency (excess)	0
Demographic data for plan year ending June 30:	
Number of beneficiaries ⁽⁵⁾	93
Number of retired members	7,113
Vested terminated members ⁽⁶⁾	726
Number of active members ⁽⁷⁾	9,806
Key assumptions as of June 30:	
Discount rate	3.50%
Inflation rate	3.00%
Projected salary increases ⁽⁸⁾	4.50% to 10.00%

⁽¹⁾ The reporting date and measurement date for the plan are June 30, 2017.

⁽²⁾ The service cost is always based on the previous year's valuation, meaning the June 30, 2017 value is based on the valuation as of June 30, 2016.

⁽³⁾ Based on final audited financial statements as of June 30, 2017.

⁽⁴⁾ For informational purposes, the TOL, Plan Fiduciary Net Position and NOL measured as of June 30, 2016 are as follows:

	June 30, 2016
Total OPEB Liability	\$145,899,565
Plan's Fiduciary Net Position	<u>28,184,759</u>
Net OPEB Liability	\$117,714,806

⁽⁵⁾ Receiving Family Death or Supplemental Family Death benefits.

⁽⁶⁾ Includes members receiving Permanent Total Disability (PTD) benefits. Excludes terminated members with less than five years of service who are not eligible for death benefits.

⁽⁷⁾ For 2017, includes 1,452 active members who have Supplemental Family Death Benefit coverage.

⁽⁸⁾ Includes inflation at 3.00% per year plus real across-the-board salary increases of 0.50% plus merit and promotional increases that vary by service.

SECTION 1: Valuation Summary for the Water and Power Employees' Death Benefit Fund

Important Information about Actuarial Valuations

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

In order to prepare an actuarial valuation, Segal 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 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. 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 LADWP to assist in preparing items related to the Death benefit Fund 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

SECTION 1: Valuation Summary for the Water and Power Employees' Death Benefit Fund

cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

- If LADWP is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. 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.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 1

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

Plan Description

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

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

Plan membership. At June 30, 2017, the members of the Death Benefit Fund consisted of the following:

Beneficiaries currently receiving benefits from Death Benefit Fund	93
Retired members currently receiving benefits from Retirement Plan	7,113
Vested terminated members entitled to, but not yet receiving benefits ⁽¹⁾	726
Active members	<u>9,806</u>
Total	17,738

⁽¹⁾ Includes members receiving Permanent Total Disability (PTD) benefits. Excludes terminated members with less than five years of service who are not eligible for death benefits.

Benefits provided. The WPERP Death Benefit Fund pays death benefits to the beneficiaries of eligible employees. Generally, to be eligible for the Family Death Benefit allowance, an employee must be a full member of WPERP and contributing to WPERP at the time of death. If death occurs after retirement, the retired member must be receiving a monthly retirement allowance from WPERP, and had a least five years of Department Service at retirement. The Family Death Benefit program pays a monthly allowance of \$416 to the surviving spouse of a member with minor (or disabled) children plus \$416 for each minor (or disabled) child up to a maximum monthly allowance of \$1,170. In addition, the spouse's portion will not be paid if the spouse is receiving a Survivor's Optional Death Benefit Allowance or an Eligible Spouse Allowance from the Retirement Plan.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

The Supplemental Family Death program is similar, but is optional and subject to making additional member contributions. The Supplemental Family Death Benefit program pays a monthly allowance of \$520 for each surviving spouse or child, in addition to the amounts payable from the Family Death Benefit program, subject to a maximum of \$1,066 for the additional benefits.

The Insured Lives Death Benefit Fund for Contributing Members provides death benefits to employees that die while employed by the Department. Generally, to be eligible, an employee must be a full member of WPERP and contributing to WPERP at time of death. The benefit paid from the Death Benefit Fund is a single sum that is equal to the lesser of 14 times the member's monthly compensation with no maximum.

The Insured Lives Death Benefit Fund for Noncontributing Members provides death benefits to employees that were employed by the Department for at least five years and death occurred after retirement. The death benefit is paid in a single sum that is equal to the lesser of 14 times the member's Full Retirement Allowance or \$20,000.

The LADWP contributes to the Death Benefit Fund 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 review of the death benefit fund. The employer and member contribution rates as of June 30, 2017 are as follows:

	Department	Members	
		Active	Retired
Family Death Benefit	\$1.62 monthly per active member	N/A	N/A
Supplemental Family Death Benefit	N/A	\$2.25 biweekly	\$4.90 monthly
Insured Lives:			
Contributing	\$0.22 per \$100 of payroll	\$1.00 biweekly	N/A
Noncontributing	\$1.05 per \$100 of monthly retirement benefit	N/A	N/A

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 2

Net OPEB Liability

Reporting Date for Employer under GAS 75	June 30, 2018	June 30, 2017
Measurement Date for Employer under GAS 75	June 30, 2017	June 30, 2016
The components of the Net OPEB Liability are as follows:		
Total OPEB Liability	\$146,808,572	\$145,899,565
Plan's Fiduciary Net Position	<u>-27,584,134</u>	<u>-28,184,759</u>
Net OPEB Liability	\$119,224,438	\$117,714,806
Plan's Fiduciary Net Position as a Percentage of the Total OPEB Liability	18.79%	19.32%

The Net OPEB Liability (NOL) for the plan was measured as of June 30, 2017 and 2016 and determined based on the Plan's Fiduciary Net Position (plan assets) and Total OPEB Liability (TOL) from the actuarial valuations as of June 30, 2017 and 2016, respectively.

Plan provisions. The plan provisions used in the measurement of the NOL are the same as those described previously and also shown later in Section 3 of this report.

Actuarial assumptions. The TOL as of June 30, 2017 and 2016 was determined by an actuarial valuation as of June 30, 2017 and 2016, respectively. The actuarial assumptions used in the June 30, 2017 and June 30, 2016 valuations 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, 2017 and 2016 funding actuarial valuations for the Retirement Plan, with the exception of a 3.50% investment return assumption and additional assumptions regarding family composition for the Family Death Benefit and Supplemental Family Death Benefit. The assumptions are outlined in Section 3 of this report. In particular, the following assumptions were applied to all periods included in the measurements:

Price Inflation	3.00%
Salary increases	4.50% to 10.00%, varying by service, including inflation
Investment rate of return	3.50%, net of investment expense, including inflation
Other assumptions	Same as those described in Section 3.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 3

Target Asset Allocation

The long-term expected rate of return on OPEB 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 Arithmetic Real Rate of Return
Fixed Income	96%	0.82%
Cash and Cash Equivalents	<u>4%</u>	-0.46%
Total	100%	

Discount rate. The discount rate used to measure the Total OPEB Liability (TOL) was 3.50% as of June 30, 2017. A “crossover test” was not explicitly performed, since the municipal bond rate as of June 30, 2017 was 3.58%. That municipal bond rate was virtually the same as (and was actually higher than) the 3.50% long-term expected rate of return on OPEB plan investments. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the TOL as of June 30, 2017.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 4

Discount Rate Sensitivity

Sensitivity of the Net OPEB Liability to changes in the discount rate. The following presents the Net OPEB Liability (NOL) of the Plan as of June 30, 2017, calculated using the discount rate of 3.50%, as well as what the Plan's NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (3.50%) or 1-percentage-point higher (4.50%) than the current rate:

Net OPEB Liability	1% Decrease (2.50%)	Current Discount Rate (3.50%)	1% Increase (4.50%)
Water	\$44,686,109	\$37,851,746	\$32,383,423
Power	<u>96,065,028</u>	<u>81,372,692</u>	<u>69,617,036</u>
Total for all Employer Categories	\$140,751,137	\$119,224,438	102,000,459

Since there is no trend rate assumption used in valuing these benefits, the NOL is unaffected by any changes in trend rates.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 5

Schedule of Changes in Net OPEB Liability – Last Fiscal Year

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Total OPEB Liability	
1. Service Cost	3,656,610
2. Interest	5,095,026
3. Change of benefit terms	0
4. Differences between expected and actual experience	125,381
5. Changes of assumptions	0
6. Benefit payments	<u>-7,968,010</u>
7. Net change in Total OPEB Liability	\$909,007
8. Total OPEB Liability – beginning	<u>\$145,899,565</u>
9. Total OPEB Liability – ending (7) + (8)	<u>\$146,808,572</u>
Plan's fiduciary net position	
10. Contributions – employer ⁽¹⁾	\$8,206,607
11. Contributions – employee	336,630
12. Net investment income	-56,662
13. Benefit payments	-7,968,010
14. Administrative expense	-1,119,190
15. Other	<u>0</u>
16. Net change in Plan's Fiduciary Net Position	-\$600,625
17. Plan's Fiduciary Net Position – beginning	<u>\$28,184,759</u>
18. Plan's Fiduciary Net Position – ending (16) + (17)	<u>\$27,584,134</u>
19. Net OPEB Liability – ending (9) – (18)	<u>\$119,224,438</u>
20. Plan's fiduciary net position as a percentage of the Total OPEB Liability (18) / (9)	18.79%
21. Covered payroll	\$892,332,196
22. Plan Net OPEB Liability as percentage of covered payroll (19) / (21)	13.36%

⁽¹⁾ Includes employer contributions for administrative expenses of \$1,068,654.

Notes to Schedule:

Benefit changes: None

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 6

Schedule of Employer Contributions – Last Two Fiscal Years

Year Ended June 30,	Actuarially Determined Contributions*	Contributions in Relation to the Actuarially Determined Contributions*	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2016	\$7,206,780	\$7,206,780	\$0	\$861,818,854	0.84%
2017	7,137,953	7,137,953	0	892,332,196	0.80%

** Excludes employer contributions towards administrative expenses.*

See accompanying notes to this schedule on next page.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

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	Pay as you go, subject to modifications by the Board’s funding policy
Funding policy	Varies by component of the Death Benefit Fund as follows: Family Death Benefit: Recommend a contribution rate that maintains assets at a target level equal to the reserve for benefits granted plus an additional 20% Supplemental Family Death Benefit: Established once stable annual costs are achieved. Insured Lives Death Benefit (Both): Recommend a contribution rate that maintains the general reserve at a target level of the average of the benefits paid for the last five years
Asset valuation method	Total market value of the Death Benefit Fund at valuation date.

	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Actuarial assumptions:		
Investment rate of return	3.50%, net of investment expenses	3.50%, net of investment expenses
Inflation rate	3.00%	3.00%
Real across-the-board salary increase	0.50%	0.50%
Projected salary increases*	4.50% to 10.00%	4.50% to 10.00%
Other assumptions	Same as those described in Section 3.	Same as those described in Section 3.

* Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotional increases that vary by service as of June 30, 2017 and 2016 respectively.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 7

Determination of Proportionate Share

Projected Compensation by Employer Category July 1, 2017 to June 30, 2018

Employer Category	Projected Compensation	Percentage ⁽¹⁾
Water	\$314,884,513	31.748%
Power	<u>676,930,481</u>	<u>68.252%</u>
Total for all Employer Categories	\$991,814,994	100.000%

⁽¹⁾ The unrounded percentages are used in the allocation of the NOL amongst employer categories.

Allocation of June 30, 2017 Net OPEB Liability

Employer Category	NOL	Percentage
Water	\$37,851,746	31.748%
Power	<u>81,372,692</u>	<u>68.252%</u>
Total for all Employer Categories	\$119,224,438	100.000%

Notes:

1. Based on the July 1, 2017 through June 30, 2018 projected compensation allocated using employer category codes provided by DWP. Projected July 1, 2017 through June 30, 2018 compensation information is from the July 1, 2017 actuarial valuation for the Retirement Plan.
2. The Net OPEB Liability (NOL) is the Total OPEB Liability (TOL) minus the Plan's Fiduciary Net Position (plan assets).
3. The NOL is allocated based on the projected compensation from each employer category. The steps used for the allocation are as follows:
 - First calculate the ratio of the projected compensation from the employer category to the total projected compensation.
 - Then multiply this ratio by the NOL to determine the employer category's proportionate share of the NOL.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 7 (continued)

Determination of Proportionate Share

**Projected Compensation by Employer Category
July 1, 2016 to June 30, 2017**

Employer Category	Projected Compensation	Percentage⁽¹⁾
Water	\$296,241,656	31.892%
Power	<u>632,647,024</u>	<u>68.108%</u>
Total for all Employer Categories	\$928,888,680	100.000%

⁽¹⁾ The unrounded percentages are used in the allocation of the NOL amongst employer categories.

Allocation of June 30, 2016 Net OPEB Liability

Employer Category	NOL	Percentage
Water	\$37,541,667	31.892%
Power	<u>80,173,139</u>	<u>68.108%</u>
Total for all Employer Categories	\$117,714,806	100.000%

Notes:

1. Based on the July 1, 2016 through June 30, 2017 projected compensation allocated using employer category codes provided by DWP. Projected July 1, 2016 through June 30, 2017 compensation information is from the July 1, 2016 actuarial valuation for the Retirement Plan.
2. The Net OPEB Liability (NOL) is the Total OPEB Liability (TOL) minus the Plan's Fiduciary Net Position (plan assets).
3. The NOL is allocated based on the projected compensation from each employer category. The steps used for the allocation are as follows:
 - First calculate the ratio of the projected compensation from the employer category to the total projected compensation.
 - Then multiply this ratio by the NOL to determine the employer category's proportionate share of the NOL.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 7 (continued)

Determination of Proportionate Share

Notes:

For purposes of the above results in this exhibit, the reporting date for the employer under GAS 75 is June 30, 2018 and June 30, 2017, respectively. The reporting date and measurement date for the plan under GAS 74 are June 30, 2017 and June 30, 2016, respectively. Consistent with the provisions of GAS 75, the assets and liabilities measured as of June 30, 2017 and June 30, 2016 are not adjusted or rolled forward to the June 30, 2018 and June 30, 2017 reporting dates. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

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

- 1) Net OPEB Liability
- 2) Service Cost
- 3) Interest on the Total OPEB Liability
- 4) Current-period benefit changes
- 5) Expensed portion of current-period difference between expected and actual experience in the Total OPEB 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 OPEB expense
- 12) Recognition of beginning of year deferred inflows of resources as OPEB expense

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

**EXHIBIT 8
OPEB Expense – Total for all Employer Categories**

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Components of OPEB Expense	
1. Service cost	\$3,656,610
2. Interest on the Total OPEB Liability	5,095,026
3. Expensed portion of current-period changes in proportion and differences between employer category's contributions and proportionate share of contributions	0
4. Current-period benefit changes	0
5. Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	18,066
6. Expensed portion of current-period changes of assumptions or other inputs	0
7. Member contributions	(336,630)
8. Projected earnings on plan investments	(976,947)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	206,722
10. Administrative expense	1,119,190
11. Other	0
12. Recognition of beginning of year deferred outflows of resources as OPEB expense	0
13. Recognition of beginning of year deferred inflows of resources as OPEB expense	0
14. Net amortization of deferred amounts from changes in proportion and differences between employer category's contributions and proportionate share of contributions	<u>0</u>
OPEB Expense	\$8,782,037

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

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

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Components of OPEB Expense	
1. Service cost	\$1,160,909
2. Interest on the Total OPEB Liability	1,617,585
3. Expensed portion of current-period changes in proportion and differences between employer category's contributions and proportionate share of contributions	(21,541)
4. Current-period benefit changes	0
5. Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	5,736
6. Expensed portion of current-period changes of assumptions or other inputs	0
7. Member contributions	(106,874)
8. Projected earnings on plan investments	(310,164)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	65,631
10. Administrative expense	355,324
11. Other	0
12. Recognition of beginning of year deferred outflows of resources as OPEB expense	0
13. Recognition of beginning of year deferred inflows of resources as OPEB expense	0
14. Net amortization of deferred amounts from changes in proportion and differences between employer category's contributions and proportionate share of contributions	<u>0</u>
OPEB Expense	\$2,766,606

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

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

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Components of OPEB Expense	
1. Service cost	\$2,495,701
2. Interest on the Total OPEB Liability	3,477,441
3. Expensed portion of current-period changes in proportion and differences between employer category's contributions and proportionate share of contributions	21,541
4. Current-period benefit changes	0
5. Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	12,330
6. Expensed portion of current-period changes of assumptions or other inputs	0
7. Member contributions	(229,756)
8. Projected earnings on plan investments	(666,783)
9. Expensed portion of current-period differences between actual and projected earnings on plan investments	141,091
10. Administrative expense	763,866
11. Other	0
12. Recognition of beginning of year deferred outflows of resources as OPEB expense	0
13. Recognition of beginning of year deferred inflows of resources as OPEB expense	0
14. Net amortization of deferred amounts from changes in proportion and differences between employer category's contributions and proportionate share of contributions	<u>0</u>
OPEB Expense	\$6,015,431

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 9

Deferred Outflows of Resources and Deferred Inflows of Resources – Total for all Employer Categories

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Deferred Outflows of Resources	
1. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$127,953
2. Changes of assumptions or other inputs	0
3. Net excess of projected over actual earnings on OPEB plan investments (if any)	826,887
4. Difference between actual and expected experience in the Total OPEB Liability	<u>107,315</u>
5. Total Deferred Outflows of Resources	\$1,062,155
Deferred Inflows of Resources	
6. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$127,953
7. Changes of assumptions or other inputs	0
8. Net excess of actual over projected earnings on OPEB plan investments (if any)	0
9. Difference between expected and actual experience in the Total OPEB Liability	<u>0</u>
10. Total Deferred Inflows of Resources	\$127,953
Deferred outflows of resources and deferred inflows of resources related to OPEB expense will be recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:	
2019	\$224,788
2020	224,788
2021	224,788
2022	224,787
2023	18,066
2024	16,985
2025	0

⁽¹⁾ Calculated in accordance with Paragraphs 64 and 65 of GAS 75.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

**EXHIBIT 9 (continued)
Deferred Outflows of Resources and Deferred Inflows of Resources – Water**

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Deferred Outflows of Resources	
1. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$0
2. Changes of assumptions or other inputs	0
3. Net excess of projected over actual earnings on OPEB plan investments (if any)	262,523
4. Difference between actual and expected experience in the Total OPEB Liability	<u>34,071</u>
5. Total Deferred Outflows of Resources	\$296,594
Deferred Inflows of Resources	
6. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$127,953
7. Changes of assumptions or other inputs	0
8. Net excess of actual over projected earnings on OPEB plan investments (if any)	0
9. Difference between expected and actual experience in the Total OPEB Liability	<u>0</u>
10. Total Deferred Inflows of Resources	\$127,953
Deferred outflows of resources and deferred inflows of resources related to OPEB expense will be recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:	
2019	\$49,825
2020	49,825
2021	49,825
2022	49,825
2023	(15,805)
2024	(14,854)
2025	0

⁽¹⁾ Calculated in accordance with Paragraphs 64 and 65 of GAS 75.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

**EXHIBIT 9 (continued)
Deferred Outflows of Resources and Deferred Inflows of Resources – Power**

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Deferred Outflows of Resources	
1. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$127,953
2. Changes of assumptions or other inputs	0
3. Net excess of projected over actual earnings on OPEB plan investments (if any)	564,364
4. Difference between actual and expected experience in the Total OPEB Liability	<u>73,244</u>
5. Total Deferred Outflows of Resources	\$765,561
Deferred Inflows of Resources	
6. Changes in proportion and differences between employer category's contributions and proportionate share of contributions ⁽¹⁾	\$0
7. Changes of assumptions or other inputs	0
8. Net excess of actual over projected earnings on OPEB plan investments (if any)	0
9. Difference between expected and actual experience in the Total OPEB Liability	<u>0</u>
10. Total Deferred Inflows of Resources	\$0
Deferred outflows of resources and deferred inflows of resources related to OPEB expense will be recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:	
2019	\$174,963
2020	174,963
2021	174,963
2022	174,962
2023	33,871
2024	31,839
2025	0

⁽¹⁾ Calculated in accordance with Paragraphs 64 and 65 of GAS 75.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 9 (continued)

Deferred Outflows of Resources and Deferred Inflows of Resources

There are changes in each employer category's proportionate share of the total Net OPEB Liability (NOL) during the measurement period ended June 30, 2017. The net effect of the change on the employer category's proportionate share of the collective NOL 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 benefits through the WPERP's Death Benefit Fund which is 6.94⁽¹⁾ years determined as of June 30, 2016 (the beginning of the measurement period ended June 30, 2017). This is described in Paragraph 64 of GAS 75.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended June 30, 2017 is recognized over the same period.

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.

We did not attempt to determine the beginning balances for deferred inflows of resources and deferred outflows of resources as of beginning of the period for the 2017 plan year. Per paragraph 244 of GAS 75, these balances are assumed to be zero.

⁽¹⁾ The remaining service lives of all employees of 6.94 used here for GAS 75 is different from the 5.92 years used for GAS 68 because the number of payees and nonactive members (with 0 years of expected remaining service lives) receiving death benefits under the Plan is less than the number of payees and nonactive members receiving pension benefits.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 10

Schedule of Proportionate Share of the Net OPEB Liability – Total for all Employer Categories

Reporting Date for Employer under GAS 75 as of June 30	Measurement Date as of June 30	Proportion of the Net OPEB Liability	Proportionate share of Net OPEB Liability	Projected Compensation	Covered payroll⁽¹⁾	Proportionate share of the Net OPEB Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total OPEB Liability
2017	2016	100.0%	\$117,714,806	\$928,888,680	\$861,818,854	13.66%	19.32%
2018	2017	100.0%	119,224,438	991,814,994	892,332,196	13.36%	18.79%

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

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 10 (continued)

Schedule of Proportionate Share of the Net OPEB Liability – Water

Reporting Date for Employer under GAS 75 as of June 30	Measurement Date as of June 30	Proportion of the Net OPEB Liability	Proportionate share of Net OPEB Liability	Projected Compensation	Covered payroll	Proportionate share of the Net OPEB Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total OPEB Liability
2017	2016	31.892%	\$37,541,667	\$296,241,656	\$274,851,713	13.66%	19.32%
2018	2017	31.748%	37,851,746	314,884,513	283,300,404	13.36%	18.79%

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 10 (continued)

Schedule of Proportionate Share of the Net OPEB Liability – Power

Reporting Date for Employer under GAS 75 as of June 30	Measurement Date as of June 30	Proportion of the Net OPEB Liability	Proportionate share of Net OPEB Liability	Projected Compensation	Covered payroll	Proportionate share of the Net OPEB Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total OPEB Liability
2017	2016	68.108%	\$80,173,139	\$632,647,024	\$586,967,141	13.66%	19.32%
2018	2017	68.252%	81,372,692	676,930,481	609,031,792	13.36%	18.79%

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 11

Schedule of Reconciliation of Net OPEB Liability – Total for all Employer Categories

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Reconciliation of Net OPEB Liability	
1. Beginning Net OPEB Liability	\$117,714,806
2. OPEB Expense	8,782,037
3. Employer Contributions	(8,206,607)
4. New Net Deferred Inflows/Outflows	934,202
5. Change in Allocation of Prior Deferred Inflows/Outflows	0
6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾	0
7. Recognition of Prior Deferred Inflows/Outflows	0
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	0
9. Ending Net OPEB Liability	<u>\$119,224,438</u>

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

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 11 (continued)

Schedule of Reconciliation of Net OPEB Liability – Water

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Reconciliation of Net OPEB Liability	
1. Beginning Net OPEB Liability	\$37,541,667
2. OPEB Expense	2,766,606
3. Employer Contributions	(2,625,168)
4. New Net Deferred Inflows/Outflows	296,594
5. Change in Allocation of Prior Deferred Inflows/Outflows	0
6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾	(127,953)
7. Recognition of Prior Deferred Inflows/Outflows	0
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	0
9. Ending Net OPEB Liability	<u>\$37,851,746</u>

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

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 11 (continued)

Schedule of Reconciliation of Net OPEB Liability – Power

Reporting Date for Employer under GAS 75	June 30, 2018
Measurement Date for Employer under GAS 75	June 30, 2017
Reconciliation of Net OPEB Liability	
1. Beginning Net OPEB Liability	\$80,173,139
2. OPEB Expense	6,015,431
3. Employer Contributions	(5,581,439)
4. New Net Deferred Inflows/Outflows	637,608
5. Change in Allocation of Prior Deferred Inflows/Outflows	0
6. New Net Deferred Flows Due to Change in Proportion ⁽¹⁾	127,953
7. Recognition of Prior Deferred Inflows/Outflows	0
8. Recognition of Prior Deferred Flows Due to Change in Proportion ⁽¹⁾	0
9. Ending Net OPEB Liability	<u>\$81,372,692</u>

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

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 12

Schedule of Recognition of Changes in Total Net OPEB Liability

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

Reporting Date for Employer under GAS 75 Year Ended June 30	Differences Between Actual and Expected Experience	Recognition Period (Years)	Reporting Date for Employer under GAS 75 Year Ended June 30						
			2018	2019	2020	2021	2022	2023	2024
2018	\$125,381	6.94	<u>\$18,066</u>	<u>\$18,066</u>	<u>\$18,066</u>	<u>\$18,066</u>	<u>\$18,066</u>	<u>\$18,066</u>	<u>\$16,985</u>
Net increase (decrease) in OPEB expense			\$18,066	\$18,066	\$18,066	\$18,066	\$18,066	\$18,066	\$16,985

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

Reporting Date for Employer under GAS 75 Year Ended June 30	Effect of Assumption Changes	Recognition Period (Years)	Reporting Date for Employer under GAS 75 Year Ended June 30						
			2018	2019	2020	2021	2022	2023	2024
2018	\$0	6.94	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Net increase (decrease) in OPEB expense			\$0	\$0	\$0	\$0	\$0	\$0	\$0

As described in Exhibit 9, the average of the expected remaining service lives of all employees that are provided with benefits through the WPERP's Death Benefit Fund (active and inactive employees) determined as of June 30, 2016 (the beginning of the measurement period ending June 30, 2017) is 6.94 years.

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 12 (continued)

Schedule of Recognition of Changes in Total Net OPEB Liability

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

Reporting Date for Employer under GAS 75 Year Ended June 30	Differences between Projected and Actual Earnings	Recognition Period (Years)	Reporting Date for Employer under GAS 75 Year Ended June 30						
			2018	2019	2020	2021	2022	2023	2024
2018	\$1,033,609	5.00	<u>\$206,722</u>	<u>\$206,722</u>	<u>\$206,722</u>	<u>\$206,722</u>	<u>\$206,721</u>	<u>\$0</u>	<u>\$0</u>
Net increase (decrease) in OPEB expense			\$206,722	\$206,722	\$206,722	\$206,722	\$206,721	\$0	\$0

The differences between projected and actual earnings on OPEB plan investments are recognized over a five-year period per Paragraph 43b. of GAS 75.

Total Increase (Decrease) in OPEB Expense

Reporting Date for Employer under GAS 75 Year Ended June 30	Total Differences	Reporting Date for Employer under GAS 75 Year Ended June 30						
		2018	2019	2020	2021	2022	2023	2024
2018	\$1,158,990	<u>\$224,788</u>	<u>\$224,788</u>	<u>\$224,788</u>	<u>\$224,788</u>	<u>\$224,787</u>	<u>\$18,066</u>	<u>\$16,985</u>
Net increase (decrease) in OPEB expense		\$224,788	\$224,788	\$224,788	\$224,788	\$224,787	\$18,066	\$16,985

SECTION 2: GAS 75 Information for the Water and Power Employees' Death Benefit Fund

EXHIBIT 13

Allocation of Changes in Total Net OPEB Liability

In addition to the amounts shown in Exhibit 12, there are changes in each employer category's proportionate share of the total Net OPEB Liability (NOL) during the measurement period ending on June 30, 2017. The net effect of the change on the employer category's proportionate share of the collective NOL 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, 2017 is recognized over the same period. These amounts are shown below. While these amounts are different for each employer category, they sum to zero for the entire Plan.

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

	Total Change to be Recognized	Recognition Period (Years)	Reporting Date for Employer under GAS 75 Year Ended June 30						
			2018	2019	2020	2021	2022	2023	2024
Water	\$(149,494)	6.94	\$(21,541)	\$(21,541)	\$(21,541)	\$(21,541)	\$(21,541)	\$(21,541)	\$(20,248)
Power	<u>149,494</u>	6.94	<u>21,541</u>	<u>21,541</u>	<u>21,541</u>	<u>21,541</u>	<u>21,541</u>	<u>21,541</u>	<u>20,248</u>
Total	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Family Death Benefit

Plan Year: July 1 through June 30
Net Investment Return: 3.50%, net of investment expenses.

Family Composition at Death for Active Members:

Member's Age at Death								Children's Age	
	Not Married No Child	Not Married One Child	Not Married 2+ Child	Married No Child	Married One Child	Married 2+ Child	Married One Disabled Child	Child 1	Child 2
Under 55	20%	5%	7%	16%	15%	30%	7%	10	8

No benefits are assumed to be payable upon deaths of active members age 55 or over or deaths of inactive vested members (receiving a Permanent Total Disability benefit) or retirees at any age.

Other Actuarial Assumptions: Same as those used in July 1, 2017 actuarial valuation report for the Retirement Plan.

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

Member Contribution Rate: None

Department Contribution Rate: Current monthly rate is \$1.62 per active covered member.

Age and Service Requirement: Pre-retirement death of an active member at any age who is a full member of WPERP and was contributing to WPERP. If death occurs after retirement, must be receiving a retirement monthly retirement allowance from WPERP and had at least five years of Department Service at retirement.

Other Requirements: The plan provides a monthly benefit for each surviving child that is:

- the naturally or legally adopted child of the member
- is under 18 and unmarried, or
- disabled and over age 18 (only if the disability occurred before age 18) and unmarried.

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods (continued)

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Family Death Benefit

Monthly Benefit:

The monthly benefit is the sum of:

- \$416 per month to each surviving child, plus
- \$416 per month to spouse (if the member's spouse has care of one or more of the member's eligible children)

limited so that the total amount payable cannot exceed \$1,170 per month. In addition, the spouse's portion will not be paid if the spouse is receiving a Survivor's Optional Death Benefit Allowance or an Eligible Spouse Allowance from the Retirement Plan. The benefit is no longer payable when the member's children no longer satisfy the eligibility requirements noted above.

Changes in Actuarial Assumptions: There have been no changes in actuarial assumptions since the prior valuation.

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods (continued)

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Supplemental Family Death Benefit

Plan Year: July 1 through June 30
Net Investment Return: 3.50%, net of investment expenses.

Family Composition at Death for Active Members:

Member's Age at Death								Children's Age	
	Not Married No Child	Not Married One Child	Not Married 2+ Child	Married No Child	Married One Child	Married 2+ Child	Married One Disabled Child	Child 1	Child 2
Under 55	0%	15%	17%	0%	22%	39%	7%	10	8

No benefits are assumed to be payable upon deaths of active members age 55 or over or deaths of inactive vested members (receiving a Permanent Total Disability benefit) or retirees at any age.

Other Actuarial Assumptions: Same as those used in July 1, 2017 actuarial valuation report for the Retirement Plan.

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

Member Contribution Rate: \$2.25 per biweekly period (or \$4.90 per month if retired).

Department Contribution Rate: The department will provide any additional funds necessary to fund the benefits.

Age and Service Requirement: Pre-retirement death of an active member at any age who is a full member of WPERP and was contributing to WPERP or post-retirement death of retired member receiving monthly retirement allowance from WPERP.

Must be enrolled and make contributions by payroll deductions for 39 successive biweekly payroll periods (approximately 18 months) before coverage becomes effective.

Other Requirements: Same as Family Death Benefit shown on p. 27.

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods (continued)

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Supplemental Family Death Benefit

Monthly Benefit: The monthly benefit is the sum of:

- \$520 per month to each surviving child, plus
- \$520 per month to spouse (if the member's spouse has care of one or more of the member's eligible children)

limited so that the total amount payable cannot exceed \$1,066 per month. In addition, the spouse's portion will not be paid if the spouse is receiving a Survivor's Optional Death Benefit Allowance or an Eligible Spouse Allowance from the Retirement Plan. The benefit is no longer payable when the member's children no longer satisfy the eligibility requirements noted above.

Changes in Actuarial Assumptions: There have been no changes in actuarial assumptions since the prior valuation.

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods (continued)

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Insured Lives Death Benefit (Contributing Active Members)

Plan Year:	July 1 through June 30
Net Investment Return	3.50%, net of investment expenses.
Other Actuarial Assumptions:	Same as those used in July 1, 2017 actuarial valuation report for the Retirement Plan.
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
Member Contribution Rate:	Employees contribute \$1.00 per biweekly payroll period.
Department Contribution Rate:	Rate recommended by Board's Actuary as an amount per \$100 of covered payroll. Current rate is \$0.22 per \$100 of payroll.
Age and Service Requirement:	Any age with six months of continuous service. Pre-retirement death of an active member who is a full member of WPERP and was contributing to WPERP.
Benefit:	A single sum distribution equal to 14 times monthly salary. In addition to this Insured Lives Death Benefit, death benefits payable from the Retirement Plan are payable to the beneficiary (not valued in this valuation).
Changes in Actuarial Assumptions:	There have been no changes in actuarial assumptions since the prior valuation.

SECTION 3: Actuarial Assumptions and Methods for the Water and Power Employees' Death Benefit Fund

Actuarial Assumptions and Methods (continued)

For June 30, 2017 Measurement Date and Employer Reporting as of June 30, 2018

Methods, Assumptions and Plan Summary for the Insured Lives Death Benefit (Non-Contributing Retired Members)

Plan Year:	July 1 through June 30
Net Investment Return	3.50%, net of investment expenses.
Other Actuarial Assumptions:	Same as those used in July 1, 2017 actuarial valuation report for the Retirement Plan.
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
Member Contribution Rate:	None
Department Contribution Rate:	Rate recommended by Board's Actuary as an amount per \$100 of retirement benefits paid during the year. Current contribution rate is \$1.05 per \$100 of monthly retirement benefit.
Age and Service Requirement:	Death occurs after retirement and member was receiving a retirement monthly allowance from WPERP and had at least five years of Department Service at retirement.
Benefit:	<p>A single sum distribution equal to 14 times the member's Full Retirement Allowance (to a maximum of \$20,000).</p> <p>In addition to this Insured Lives Death Benefit, death benefits payable from the Retirement Plan include any unpaid Retirement Plan allowances due and the balance of contributions remaining in the Retirement Plan if Option A was the member's selected method of pension payment all of which is payable to beneficiary (not valued in this valuation).</p>
Changes in Actuarial Assumptions:	There have been no changes in actuarial assumptions since the prior valuation.

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