Los Angeles Department of Water and Power (LADWP)

Governmental Accounting Standards Board Statement 75 (GAS 75) Actuarial Valuation for the Death Benefit Fund

Actuarial Valuation Based on June 30, 2020 Measurement Date for Employer Reporting as of June 30, 2021

- 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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November 15, 2021

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

Dear Ann:

We are pleased to submit this Governmental Accounting Standards (GAS) 75 Actuarial Valuation of the Death Benefit Fund based on a June 30, 2020 measurement date for employer reporting as of June 30, 2021. It contains various information that will need to be disclosed in order for the two systems in the Department of Water and Power to comply with GAS 75.

This 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 were based was prepared by the Retirement Office. That assistance is gratefully acknowledged.

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

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

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

Sincerely,

Segal

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

Eva Yum, FSA, MAAA, EA Vice President and Actuary

JAC/jl

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Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards (GAS) 75 for employer reporting as of June 30, 2021. 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 reporting date and a measurement date as of June 30, 2020. 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 and disabled members as of March 31, 2020, provided by the Retirement Office;
- The assets of the Fund as of June 30, 2020, provided by the Retirement Office;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the July 1, 2020 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the July 1, 2020 valuation.

General observations on GAS 75 actuarial valuation

- 1. The Governmental Accounting Standards 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 should develop and adopt funding policies under current practices.
- 2. The Total OPEB Liability (TOL) is determined using the Entry Age actuarial cost method as specified by GASB and the same 3.50% per year expected return on Fund assets as WPERP uses for funding of the Death Benefit Fund.
- The Net OPEB Liability (NOL) is equal to the difference between the TOL and the Plan Fiduciary Net Position. The Plan
 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.

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Highlights of the valuation

- 1. For this report, the reporting dates for the employer are June 30, 2021 and June 30, 2020. The NOL was measured as of June 30, 2020 and June 30, 2019, respectively, and determined based upon the results of the actuarial valuations as of July 1, 2020 and July 1, 2019, respectively. The Plan Fiduciary Net Position (plan assets) and the TOL were valued as of the measurement dates. Consistent with the provisions of GAS 75, the assets and liabilities measured as of June 30, 2020 and June 30, 2020 and June 30, 2019 are not adjusted or rolled forward to the June 30, 2021 and June 30, 2020 reporting dates, respectively.
- 2. For the June 30, 2020 and June 30, 2019 measurements, we used 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 2.75% inflation assumption for the July 1, 2020 and July 1, 2019 valuation reports.
- 3. The NOL decreased from \$105.5 million as of June 30, 2019 to \$96.4 million as of June 30, 2020 primarily due to the favorable actuarial experience and the 8.82% return on the market value of assets during 2019/2020 (that was more than the assumed return of 3.50%). Changes in these values during the last two fiscal years ending June 30, 2019 and June 30, 2020 can be found in Section 2, Schedule of changes in Net OPEB Liability on page 16.
- 4. The discount rate used to determine the TOL and NOL as of June 30, 2020 and 2019 was 3.50%. Details on the derivation of the discount rate as of June 30, 2020 can be found in Section 3, Appendix A. Various other information that is required to be disclosed can be found throughout Section 2. Actuarial assumptions and methods can be found in the Actuarial Assumptions and Methods subsection in Section 3.
- 5. There was a decrease in the total employer OPEB expense from \$8.2 million calculated last year to \$7.0 million calculated this year. The primary cause of the decrease was \$0.6 million in new credits from actual experience more favorable than expected in the total OPEB liability and higher than expected return on market value of assets during the year ending June 30, 2020. A breakdown of the OPEB expenses for this year and last year can be found in Section 2, OPEB Expense on page 22.
- 6. The NOL has been allocated based on the projected compensation for each system 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 systems. The NOL allocation can be found in Section 2, Determination of Proportionate Share on page 19.
- 7. Results shown in this report exclude any employer contributions made after the measurement date of June 30, 2020. LADWP should consult with their auditors to determine the deferred outflow that should be created for these contributions.



8. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Moreover, this actuarial valuation is based on Plan data as of March 31, 2020 (adjusted to June 30, 2020 by adding 3 months of age, service and interest on contribution balance, and increasing benefit by the assumed July 1 COLA for members in pay status) and it does not include any short-term or long-term impacts on mortality of the covered population since March 31, 2020, except for actual death benefit payments that are reflected in the plan assets as of June 30, 2020. While it is impossible to determine how the pandemic will continue to affect market conditions and other demographic experience of the Plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.



Summary of key valuation results

Reporting Date for Employe	r under GAS 75	June 30, 2021 ¹	June 30, 2020 ¹
Measurement Date for Empl	oyer under GAS 75	June 30, 2020	June 30, 2019
Disclosure elements for	Service cost ²	\$4,716,844	\$4,779,848
plan year ending	 Total OPEB Liability 	133,737,063	134,257,596
June 30:	 Plan Fiduciary Net Position³ 	37,364,822	28,806,740
	 Net OPEB Liability 	96,372,241	105,450,856
	OPEB expense	7,010,794	8,197,288
Schedule of contributions	 Actuarially determined contributions⁴ 	\$13,334,780	\$7,259,955
for plan year ending	 Actual contributions 	13,299,775	7,259,955
June 30:	 Contribution deficiency / (excess) 	35,005	0
Demographic data for plan	 Number of beneficiaries⁵ 	88	90
year ending June 30:	 Number of retired members 	7,472	7,355
	 Vested terminated members⁶ 	619	630
	 Number of active members⁷ 	10,778	10,362
Key assumptions as of	Discount rate	3.50%	3.50%
June 30:	Inflation rate	2.75%	2.75%
	 Projected salary increases⁸ 	4.50% to 10.25%; varying by service, including inflation	4.50% to 10.25%; varying by service, including inflation

¹ The reporting dates and measurement dates for the plan are June 30, 2020 and 2019, respectively.

² The service cost is always based on the previous year's assumptions, meaning that the June 30, 2020 and June 30, 2019 measurement values are based on the assumptions shown as of July 1, 2019 and July 1, 2018, respectively. The key assumptions in the July 1, 2018 valuation were as follows:

Discount rate:	3.50%
Inflation rate:	3.00%
Projected salary increases:	4.50% to 10.00%, varying by service, including inflation.

³ Based on final audited financial statements as of June 30, 2020.

⁴ Starting in 2020, the actuarially determined contribution is determined based on actual covered payroll reported by the Retirement Office.

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 Includes 1,524 and 1,789 active members who have Supplemental Family Death Benefit coverage for 2020 and 2019, respectively.
- ⁸ Includes inflation at 2.75% per year plus real across-the-board salary increases of 0.50% plus merit and promotion increases as of June 30, 2020 and 2019.



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 a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the Retirement Office. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	This valuation is based on the market value of assets as of the measurement date, as provided by the Retirement Office.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, termination, 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.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.



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 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 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.



General information about the 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, 2020, the members of the Death Benefit Fund consisted of the following:

Total	18,957
Active members	10,778
Vested terminated members entitled to, but not yet receiving benefits ¹	619
Retired members currently receiving benefits from Retirement Plan	7,472
Beneficiaries currently receiving benefits from Death Benefit Fund	88

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.



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 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, 2020 are as follows:

		Members	
	Department	Active	Retired
Total Death Benefit Fund	1.18% of payroll		
Family Death Benefit		N/A	N/A
Supplemental Family Death Benefit		\$2.25 biweekly	\$4.90 monthly
Insured Lives:			
Contributing		\$1.00 biweekly	N/A
Noncontributing		N/A	N/A



Net OPEB Liability

Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Components of the Net OPEB Liability		
Total OPEB Liability	\$133,737,063	\$134,257,596
Plan Fiduciary Net Position	<u>37,364,822</u>	<u>28,806,740</u>
Net OPEB Liability	\$96,372,241	\$105,450,856
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	27.94%	21.46%

The Net OPEB Liability (NOL) was measured as of June 30, 2020 and 2019 and determined based upon the Plan Fiduciary Net Position (plan assets) and Total OPEB Liability (TOL) from actuarial valuations as of July 1, 2020 and 2019, respectively.

Plan provisions. The plan provisions used in the measurement of the NOL are the same as those described previously.

Actuarial assumptions. The TOL as of June 30, 2020 and 2019 were determined by actuarial valuations as of July 1, 2020 and 2019, respectively. The actuarial assumptions used in the June 30, 2020 measurement were based on the results of an experience study for the period from July 1, 2015 through June 30, 2018. They are the same as the assumptions used in the July 1, 2020 actuarial valuation 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. In particular, the following assumptions were applied to all periods included in the June 30, 2020 measurement:

Inflation	2.75%
Salary increases	4.50% to 10.25%, vary by service, including inflation
Investment rate of return	3.50%, net of investment expense, including inflation
Other assumptions:	Same as those described in the Actuarial assumptions and Methods subsection in Section 3.

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The actuarial assumptions used in the June 30, 2019 measurement were based on the results of an experience study for the period from July 1, 2015 through June 30, 2018. They are the same as the assumptions used in the July 1, 2019 actuarial valuation 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. In particular, the following assumptions were applied to all periods included in the June 30, 2019 measurement:

Inflation	2.75%
Salary increases	4.50% to 10.25%, vary by service, including inflation
Investment rate of return	3.50%, net of investment expense, including inflation
Other assumptions:	Same as those described in the Actuarial assumptions and Methods subsection in Section 3.



Determination of discount rate and investment rates of return

The long-term expected rate of return on OPEB plan investments was determined in 2019 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption as of June 30, 2020 are summarized in the following table. This information will change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	96%	1.42%
Cash and Cash Equivalents	4%	0.25%
Total	100%	

Discount rate: The discount rate used to measure the TOL was 3.50% as of June 30, 2020 and June 30, 2019, respectively. The projection of cash flows used to determine the June 30, 2020 discount rate assumed member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the required contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan 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 the Death Benefit Fund's investments was applied to all periods of projected benefit payments to determine the TOL as of June 30, 2020.

A "crossover test" was not explicitly performed as of June 30, 2019 since the municipal bond rate as of June 30, 2019 was 3.50% which was equal to 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, 2019.

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Discount rate sensitivity

Sensitivity of the Net OPEB Liability to changes in the discount rate. The following presents the NOL of the Plan as of June 30, 2020, calculated using the discount rate of 3.50%, as well as what the Plan NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (2.50%) or 1-percentage-point higher (4.50%) than the current rate:

System	1% Decrease (2.50%)	Current Discount Rate (3.50%)	1% Increase (4.50%)
Water	\$38,076,135	\$31,146,705	\$25,632,652
Power	<u>79,736,727</u>	<u>65,225,536</u>	<u>53,678,342</u>
Total for all systems	\$117,812,862	\$96,372,241	\$79,310,994

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



Schedule of changes in Net OPEB Liability

Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Total OPEB Liability		
Service Cost	\$4,716,844	\$4,779,848
Interest	4,725,458	5,058,685
Change of benefit terms	0	0
 Differences between expected and actual experience 	-2,040,143	485,084
Changes of assumptions	0	-11,703,994
Benefit payments	<u>-7,922,692</u>	-8,232,053
Net change in Total OPEB Liability	-\$520,533	-\$9,612,430
Total OPEB Liability – beginning	<u>134,257,596</u>	<u>143,870,026</u>
Total OPEB Liability – ending (a)	\$133,737,063	\$134,257,596
Plan Fiduciary Net Position		
 Contributions – employer (including those for administrative expenses) 	\$14,908,884	\$8,777,581
Contributions – employee	384,893	358,073
Net investment income	2,793,526	2,292,799
Benefit payments	-7,922,692	-8,232,053
Administrative expense	<u>-1,606,529</u>	<u>-1,599,880</u>
Net change in Plan Fiduciary Net Position	\$8,558,082	\$1,596,520
Plan Fiduciary Net Position – beginning	<u>28,806,740</u>	<u>27,210,220</u>
Plan Fiduciary Net Position – ending (b)	\$37,364,822	\$28,806,740
Net OPEB Liability – ending (a) – (b)	\$96,372,241	\$105,450,856
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	27.94%	21.46%
Covered payroll	\$1,130,066,141	\$1,028,212,002
Plan Net OPEB Liability as percentage of covered payroll	8.53%	10.26%

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Notes to Schedule:

Benefit changes: None

Schedule of Employer Contributions – Last Five Fiscal Years

Year Ended June 30	Actuarially Determined Contributions ^{1,2}	Contributions in Relation to the Actuarially Determined Contributions ¹	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%
2018	7,137,211	7,137,211	0	953,635,670	0.75%
2019	7,259,955	7,259,955	0	1,028,212,002	0.71%
2020	13,334,780	13,299,775	35,005	1,130,066,141	1.18%

See accompanying notes to this schedule on the next page.

¹ Excludes employer contributions towards administrative expenses.

² Starting in 2020, the actuarially determined contribution is determined based on actual covered payroll reported by the Retirement Office.



Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" (ADC) 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
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 and expected returns on a market value basis and is recognized over a five-year period. Prior to the July 1, 2020 valuation, as directed by the Retirement Office, the actuarial value of assets was reduced by 1% as an amount classified as a non-valuation reserve to develop the net actuarial value of assets.
Amortization Method	Level dollar amortization
Remaining amortization period	The July 1, 2019 Unfunded Actuarial Accrued Liability is amortized over a fifteen-year period commencing July 1, 2019 (fully amortized as of July 1, 2034). Any subsequent changes in Surplus or Unfunded Actuarial Accrued Liability are amortized over separate fifteen-year periods. All amortization amounts are determined in equal dollar amounts over the amortization period. The Board may, by resolution, adopt a separate period of not more than thirty years to amortize the change in Surplus or Unfunded Actuarial Accrued Liability areas of not more than thirty years to amortize the change in Surplus or Unfunded Actuarial Accrued Liability resulting from an unusual event, plan amendment or change in assumptions or methods.

Actuarial assumptions:

Valuation Date:	July 1, 2020 Valuation Date	July 1, 2019 Valuation Date
Investment rate of return:	3.50%, net of investment expenses	3.50%, net of investment expenses
Inflation rate:	2.75%	2.75%
Real across-the-board salary increase:	0.50%	0.50%
Projected salary increases:1	4.50% to 10.25%	4.50% to 10.25%
Cost of living adjustments:	2.75% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2)	2.75% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2)
Other assumptions:	Same as those used in the July 1, 2020 funding actuarial valuation	Same as those used in the July 1, 2019 funding actuarial valuation

¹ Includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases as of July 1, 2020 and 2019, respectively.



Determination of proportionate share

Projected Compensation by System July 1, 2020 to June 30, 2021

System	Projected Compensation	Percentage
Water	391,643,122	32.319%
Power	<u>820,155,218</u>	<u>67.681%</u>
Total	1,211,798,340	100.000%

Allocation of June 30, 2020 Net OPEB Liability (NOL)

System	NOL	Percentage
Water	\$31,146,705	32.319%
Power	<u>65,225,536</u>	<u>67.681%</u>
Total	\$96,372,241	100.000%

Notes:

- The unrounded percentages are used in the allocation of the NOL amongst systems.
- The Net OPEB Liability (NOL) has been allocated based on the projected compensation for each system 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 those percentages to determine each member's allocation between these two systems. Projected July 1, 2020 through June 30, 2021 compensation information is from the July 1, 2020 actuarial valuation for the Retirement Plan.
- The NOL is the Total OPEB Liability (TOL) minus the Plan Fiduciary Net Position (plan assets).
- The NOL is allocated based on the projected compensation from each system. The steps used for the allocation are as follows:
 - 1. First calculate the ratio of the projected compensation from the system to the total projected compensation.
 - 2. Then multiply this ratio by the NOL to determine the system's proportionate share of the NOL.



Determination of proportionate share (continued)

Projected Compensation by System

July 1, 2019 to June 30, 2020

System	Projected Compensation	Percentage
Water	\$360,944,278	31.610%
Power	<u>780,931,338</u>	<u>68.390%</u>
Total	\$1,141,875,616	100.000%

Allocation of June 30, 2019 Net OPEB Liability (NOL)

System	NOL	Percentage
Water	\$33,332,775	31.610%
Power	<u>72,118,081</u>	<u>68.390%</u>
Total	\$105,450,856	100.000%

Notes:

- The unrounded percentages are used in the allocation of the NOL amongst systems.
- The Net OPEB Liability (NOL) has been allocated based on the projected compensation for each system 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 those percentages to determine each member's allocation between these two systems. Projected July 1, 2019 through June 30, 2020 compensation information is from the July 1, 2019 actuarial valuation for the Retirement Plan.

Segal 20

- The NOL is the Total OPEB Liability (TOL) minus the Plan Fiduciary Net Position (plan assets).
- The NOL is allocated based on the projected compensation from each system. The steps used for the allocation are as follows:
 - 1. First calculate the ratio of the projected compensation from the system to the total projected compensation.
 - 2. Then multiply this ratio by the NOL to determine the system's proportionate share of the NOL.

Determination of proportionate share (continued)

Notes:

For purposes of the above results, the reporting dates for the employer under GAS 75 are June 30, 2021 and June 30, 2020. The reporting date and measurement date for the plan under GAS 74 are June 30, 2020 and June 30, 2019, respectively. Consistent with the provisions of GAS 75, the assets and liabilities measured as of June 30, 2020 and June 30, 2019 are <u>not</u> adjusted or "rolled forward" to June 30, 2021 and June 30, 2020 reporting dates. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

Segal 21

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

- 1. Net OPEB LiabilityService 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

OPEB Expense

Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Service cost	\$4,716,844	\$4,779,848
Interest on the Total OPEB Liability	4,725,458	5,058,685
 Expensed portion of current-period changes in proportion and differences between system's contributions and proportionate share of contributions 	0	0
Current-period benefit changes	0	0
 Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability 	(264,267)	64,764
 Expensed portion of current-period changes of assumptions or other inputs 	0	(1,562,616)
Member contributions	(384,893)	(358,073)
 Projected earnings on plan investments 	(1,109,116)	(940,173)
 Expensed portion of current-period differences between actual and projected earnings on plan investments 	(336,882)	(270,525)
Administrative expense	1,606,529	1,599,880
Other	0	0
 Recognition of beginning of year deferred outflows of resources as OPEB expense 	505,731	440,967
 Recognition of beginning of year deferred inflows of resources as OPEB expense 	(2,448,610)	(615,469)
 Net amortization of deferred amounts from changes in proportion and differences between system's contributions and proportionate share of contributions 	0	0
OPEB Expense	\$7,010,794	\$8,197,288

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OPEB Expense (continued)

Water		
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Service cost	\$1,524,442	\$1,510,897
Interest on the Total OPEB Liability	1,527,229	1,599,039
 Expensed portion of current-period changes in proportion and differences between system's contributions and proportionate share of contributions 	105,543	(75,927)
Current-period benefit changes	0	0
 Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability 	(85,409)	20,472
Expensed portion of current-period changes of assumptions or other inputs	0	(493,939)
Member contributions	(124,394)	(113,186)
Projected earnings on plan investments	(358,457)	(297,187)
 Expensed portion of current-period differences between actual and projected earnings on plan investments 	(108,877)	(85,512)
Administrative expense	519,217	505,718
• Other	0	0
Recognition of beginning of year deferred outflows of resources as OPEB expense	163,448	139,389
Recognition of beginning of year deferred inflows of resources as OPEB expense	(791,370)	(194,548)
 Net amortization of deferred amounts from changes in proportion and differences between system's contributions and proportionate share of contributions 	<u>(35,771)</u>	40,156
OPEB Expense	\$2,335,601	\$2,555,372



OPEB Expense (continued)

Power		
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Service cost	\$3,192,402	\$3,268,951
Interest on the Total OPEB Liability	3,198,229	3,459,646
 Expensed portion of current-period changes in proportion and differences between system's contributions and proportionate share of contributions 	(105,543)	75,927
Current-period benefit changes	0	0
 Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability 	(178,858)	44,292
 Expensed portion of current-period changes of assumptions or other inputs 	0	(1,068,677)
Member contributions	(260,499)	(244,887)
Projected earnings on plan investments	(750,659)	(642,986)
 Expensed portion of current-period differences between actual and projected earnings on plan investments 	(228,005)	(185,013)
Administrative expense	1,087,312	1,094,162
• Other	0	0
Recognition of beginning of year deferred outflows of resources as OPEB expense	342,283	301,578
Recognition of beginning of year deferred inflows of resources as OPEB expense	(1,657,240)	(420,921)
 Net amortization of deferred amounts from changes in proportion and differences between system's contributions and proportionate share of contributions 	35,771	<u>(40,156)</u>
OPEB Expense	\$4,675,193	\$5,641,916

🔆 Segal 24

Deferred Outflows of Resources and Deferred Inflows of Resources

Total		
Reporting Date for Employer under GAS 75 Measurement Date for Employer under GAS 75	June 30, 2021 June 30, 2020	June 30, 2020 June 30, 2019
Deferred Outflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$1,449,780	\$899,695
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on OPEB plan investments (if any)	0	0
 Difference between actual and expected experience in the Total OPEB Liability 	408,673	491,503
Total Deferred Outflows of Resources	\$1,858,453	\$1,391,198
Deferred Inflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$1,449,780	\$899,695
Changes of assumptions or other inputs	8,578,762	10,141,378
Net difference between actual and projected earnings on OPEB plan investments (if any)	1,520,027	20,123
 Difference between expected and actual experience in the Total OPEB Liability 	<u>4,373,158</u>	3,212,751
Total Deferred Inflows of Resources	\$15,921,727	\$14,273,947
Deferred outflows of resources and deferred inflows of resources related to OPEB will be	recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:		
2021	N/A	\$(1,942,879)
2022	(2,544,029)	(1,942,880)
2023	(2,750,752)	(2,149,603)
2024	(2,968,011)	(2,366,862)
2025	(2,714,470)	(2,113,321)
2026	(1,897,525)	(1,633,258)
2027	(998,213)	(733,946)
2028	(190,274)	0
Thereafter	0	0

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

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

Water		
Reporting Date for Employer under GAS 75 Measurement Date for Employer under GAS 75	June 30, 2021 June 30, 2020	June 30, 2020 June 30, 2019
Deferred Outflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$969,611	\$322,058
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on OPEB plan investments (if any)	0	0
 Difference between actual and expected experience in the Total OPEB Liability 	132,080	<u>155,363</u>
Total Deferred Outflows of Resources	\$1,101,691	\$477,421
Deferred Inflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$480,169	\$577,637
Changes of assumptions or other inputs	2,772,584	3,205,666
Net difference between actual and projected earnings on OPEB plan investments (if any)	491,260	6,361
Difference between expected and actual experience in the Total OPEB Liability	<u>1,413,368</u>	<u>1,015,543</u>
Total Deferred Inflows of Resources	\$5,157,381	\$4,805,207
Deferred outflows of resources and deferred inflows of resources related to OPEB will be	recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:		
2021	N/A	\$(649,911)
2022	(752,437)	(649,911)
2023	(819,248)	(715,256)
2024	(888,171)	(782,638)
2025	(785,981)	(682,246)
2026	(570,075)	(578,623)
2027	(254,275)	(269,201)
2028	14,497	0
Thereafter	0	0

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



Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

Power		
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019
Deferred Outflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$480,169	\$577,637
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on OPEB plan investments (if any)	0	0
Difference between actual and expected experience in the Total OPEB Liability	<u>276,593</u>	<u>336,140</u>
Total Deferred Outflows of Resources	\$756,762	\$913,777
Deferred Inflows of Resources		
 Changes in proportion and differences between system's contributions and proportionate share of contributions¹ 	\$969,611	\$322,058
Changes of assumptions or other inputs	5,806,178	6,935,712
Net difference between actual and projected earnings on OPEB plan investments (if any)	1,028,767	13,762
Difference between expected and actual experience in the Total OPEB Liability	2,959,790	<u>2,197,208</u>
Total Deferred Inflows of Resources	\$10,764,346	\$9,468,740
Deferred outflows of resources and deferred inflows of resources related to OPEB will be i	recognized as follows:	
Reporting Date for Employer under GAS 75 Year Ended June 30:		
2021	N/A	\$(1,292,968)
2022	(1,791,592)	(1,292,969)
2023	(1,931,504)	(1,434,347)
2024	(2,079,840)	(1,584,224)
2025	(1,928,489)	(1,431,075)
2026	(1,327,450)	(1,054,635)
2027	(743,938)	(464,745)
2028	(204,771)	0
Thereafter	0	0

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

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

There are changes in each system's proportionate share of the total Net OPEB Liability (NOL) during the measurement period ended June 30, 2020. The net effect of the change on the system'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 WPERP's Death Benefit Fund which is 7.72¹ years determined as of July 1, 2019 (the beginning of the measurement period ended June 30, 2020). This is described in Paragraph 64 of GAS 75.

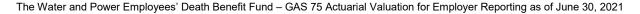
In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended June 30, 2020 is recognized over the same period.

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

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

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

¹ The remaining service lives of all employees of 7.72 years used here for GAS 75 is different from the 6.67 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.





Schedule of Proportionate Share of Net OPEB Liability

Total

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 Covered Payroll	Plan 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%
2019	2018	100.0%	116,659,806	1,073,554,608	953,635,670	12.23%	18.91%
2020	2019	100.0%	105,450,856	1,141,875,616	1,028,212,002	10.26%	21.46%
2021	2020	100.0%	96,372,241	1,211,798,340	1,130,066,141	8.53%	27.94%

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



Schedule of Proportionate Share of Net OPEB Liability (continued)

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 Covered Payroll	Plan 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%
2019	2018	32.121%	37,472,190	344,835,498	306,316,444	12.23%	18.91%
2020	2019	31.610%	33,332,775	360,944,278	325,015,469	10.26%	21.46%
2021	2020	32.319%	31,146,705	391,643,122	365,227,957	8.53%	27.94%

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



Schedule of Proportionate Share of Net OPEB Liability (continued)

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 Covered Payroll	Plan 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%
2019	2018	67.879%	79,187,616	728,719,110	647,319,226	12.23%	18.91%
2020	2019	68.390%	72,118,081	780,931,338	703,196,533	10.26%	21.46%
2021	2020	67.681%	65,225,536	820,155,218	764,838,184	8.53%	27.94%

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



Schedule of Reconciliation of Net OPEB Liability

Total									
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020							
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019							
Beginning Net OPEB Liability	\$105,450,856	\$116,659,806							
OPEB Expense	7,010,794	8,197,288							
Employer Contributions	(14,908,884)	(8,777,581)							
New Net Deferred Inflows/Outflows	(3,123,404)	(10,803,159)							
Change in Allocation of Prior Deferred Inflows/Outflows	0	0							
 New Net Deferred Flows Due to Change in Proportion¹ 	0	0							
Recognition of Prior Deferred Inflows/Outflows	1,942,879	174,502							
 Recognition of Prior Deferred Flows Due to Change in Proportion¹ 	0	0							
Ending Net OPEB Liability	\$96,372,241	\$105,450,856							

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

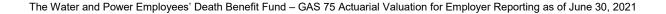


Schedule of Reconciliation of Net OPEB Liability (continued)

Water									
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020							
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019							
Beginning Net OPEB Liability	\$33,332,775	\$37,472,190							
OPEB Expense	2,335,601	2,555,372							
Employer Contributions	(4,793,767)	(2,813,692)							
New Net Deferred Inflows/Outflows	(1,009,457)	(3,414,853)							
Change in Allocation of Prior Deferred Inflows/Outflows	(91,390)	11,521							
 New Net Deferred Flows Due to Change in Proportion¹ 	709,250	(492,766)							
Recognition of Prior Deferred Inflows/Outflows	627,922	55,159							
 Recognition of Prior Deferred Flows Due to Change in Proportion¹ 	35,771	(40,156)							
Ending Net OPEB Liability	\$31,146,705	\$33,332,775							

🔆 Segal 33

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



Schedule of Reconciliation of Net OPEB Liability (continued)

Power									
Reporting Date for Employer under GAS 75	June 30, 2021	June 30, 2020							
Measurement Date for Employer under GAS 75	June 30, 2020	June 30, 2019							
Beginning Net OPEB Liability	\$72,118,081	\$79,187,616							
OPEB Expense	4,675,193	5,641,916							
Employer Contributions	(10,115,117)	(5,963,889)							
New Net Deferred Inflows/Outflows	(2,113,947)	(7,388,306)							
Change in Allocation of Prior Deferred Inflows/Outflows	91,390	(11,521)							
 New Net Deferred Flows Due to Change in Proportion¹ 	(709,250)	492,766							
Recognition of Prior Deferred Inflows/Outflows	1,314,957	119,343							
 Recognition of Prior Deferred Flows Due to Change in Proportion¹ 	<u>(35,771)</u>	40,156							
Ending Net OPEB Liability	\$65,225,536	\$72,118,081							

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



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	Between Actual and	Recognition			Reporting	J Date for Emplo	yer under GAS 7	′5 Year Ended Jເ	une 30:		
	Expected Experience	Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018	\$125,381	6.94	\$18,066	\$18,066	\$18,066	\$18,066	\$16,985	\$0	\$0	\$0	\$0
2019	(4,443,689)	7.22	(615,469)	(615,469)	(615,469)	(615,469)	(615,469)	(615,469)	(135,406)	0	0
2020	485,084	7.49	64,764	64,764	64,764	64,764	64,764	64,764	64,764	31,736	0
2021	(2,040,143)	7.72	N/A	<u>(264,267)</u>	<u>(190,274)</u>						
Net Increase/(De	crease) in OPE	B Expense	\$(532,639)	\$(796,906)	\$(796,906)	\$(796,906)	\$(797,987)	\$(814,972)	\$(334,909)	\$(232,531)	\$(190,274)

As described in *Section 2, Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources*, 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 July 1, 2019 (the beginning of the measurement period ending June 30, 2020) is 7.72 years.



Schedule of Recognition of Changes in Total Net OPEB Liability (continued)

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

Reporting Date for Employer under GAS 75 Year Ended	Effect of	Recognition	n Reporting Date for Employer under GAS 75 Year Ended June 30:								
June 30	Assumption Changes	Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018	\$0	6.94	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	0	7.22	0	0	0	0	0	0	0	0	0
2020	(11,703,994)	7.49	(1,562,616)	(1,562,616)	(1,562,616)	(1,562,616)	(1,562,616)	(1,562,616)	(1,562,616)	(765,682)	0
2021	0	7.72	N/A	0	0	0	0	0	0	0	0
Net Increase/(De	crease) in OPE	B Expense	\$(1,562,616)	\$(1,562,616)	\$(1,562,616)	\$(1,562,616)	\$(1,562,616)	\$(1,562,616)	\$(1,562,616)	\$(765,682)	\$0

As described in *Section 2, Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources*, 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 July 1, 2019 (the beginning of the measurement period ending June 30, 2020) is 7.72 years.



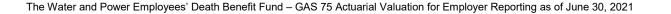
Schedule of Recognition of Changes in Total Net OPEB Liability (continued)

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	Between Projected	Recognition Period			Reporting	Date for Employ	yer under GAS 7	5 Year Ended Ju	ne 30:		
June 30	Actual Earnings	(Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018	\$1,033,609	5.00	\$206,722	\$206,722	\$206,721	\$0	\$0	\$0	\$0	\$0	\$0
2019	1,080,893	5.00	216,179	216,179	216,179	216,177	0	0	0	0	0
2020	(1,352,626)	5.00	(270,525)	(270,525)	(270,525)	(270,525)	(270,526)	0	0	0	0
2021	(1,684,410)	5.00	<u>N/A</u>	<u>(336,882)</u>	<u>(336,882)</u>	<u>(336,882)</u>	<u>(336,882)</u>	<u>(336,882)</u>	0	0	0
Net Increase/(De	crease) in OPE	B Expense	152,376	(184,506)	(184,507)	(391,230)	(607,408)	(336,882)	\$0	\$0	\$0

Segal 37

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



Schedule of Recognition of Changes in Total Net OPEB Liability (continued)

Reporting Date for Employer under GAS 75	T -4-1			Reporting	g Date for Emplo	oyer under GAS :	75 Year Ended J	une 30:		
Year Ended June 30	Total Differences	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018	\$1,158,990	\$224,788	\$224,788	\$224,787	\$18,066	\$16,985	\$0	\$0	\$0	\$0
2019	(3,362,796)	(399,290)	(399,290)	(399,290)	(399,292)	(615,469)	(615,469)	(135,406)	0	0
2020	(12,571,536)	(1,768,377)	(1,768,377)	(1,768,377)	(1,768,377)	(1,768,378)	(1,497,852)	(1,497,852)	(733,946)	0
2021	(3,724,553)	N/A	<u>(601,149)</u>	<u>(601,149)</u>	<u>(601,149)</u>	<u>(601,149)</u>	<u>(601,149)</u>	<u>(264,267)</u>	<u>(264,267)</u>	<u>(190,274)</u>
Net Increase/(Dec	crease) in OPEB Expense	(1,942,879)	(2,544,028)	(2,544,029)	(2,750,752)	(2,968,011)	(2,714,470)	(1,897,525)	(998,213)	(190,274)

Total Increase (Decrease) in OPEB Expense



Allocation of Changes in Total Net OPEB Liability

In addition to the amounts shown in Section 2, Schedule of Recognition of Changes in Total Net OPEB Liability, there are changes in each system's proportionate share of the total Net OPEB Liability (NOL) during the measurement period ending on June 30, 2020. The net effect of the change on the system'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, 2020 is recognized over the same period. These amounts are shown below, with the corresponding amounts for the reporting periods ending each June 30 beginning in 2018 as follows. While these amounts are different for each system, 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, 2021

	Tatal Ohanas ta	Recognition	Reporting Date for Employer under GAS 75 Year Ended June 30							
	Total Change to be Recognized	Period [—] (Years)	2021	2022	2023	2024	2025	2026	2027	2028
Water	\$814,793	7.72	\$105,543	\$105,543	\$105,543	\$105,543	\$105,543	\$105,543	\$105,543	\$75,992
Power	<u>(814,793)</u>	7.72	<u>(105,543)</u>	<u>(105,543)</u>	<u>(105,543)</u>	<u>(105,543)</u>	<u>(105,543)</u>	<u>(105,543)</u>	<u>(105,543)</u>	<u>(75,992)</u>
Total	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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, 2020

	Total Ohanna ta	Recognition		Re	porting Date for	r Employer und	er GAS 75 Year	Ended June 30)				
	Total Change to Period be Recognized (Years)	2020	2021	2022	2023	2024	2025	2026	2027				
Water	(\$568,693)	7.49	(\$75,927)	(\$75,927)	(\$75,927)	(\$75,927)	(\$75,927)	(\$75,927)	(\$75,927)	(\$37,204)			
Power	<u>568,693</u>	7.49	75,927	75,927	75,927	75,927	75,927	75,927	75,927	37,204			
Total	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			



Allocation of Changes in Total Net OPEB Liability (continued)

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, 2019

		Recognition								
	Total Change to be Recognized	Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026
Water	\$445,452	7.22	\$61,697	\$61,697	\$61,697	\$61,697	\$61,697	\$61,697	\$61,697	\$13,573
Power	<u>(445,452)</u>	7.22	<u>(61,697)</u>	<u>(13,573)</u>						
Total	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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

		Recognition		Reporting	porting Date for Employer under GAS 75 Year Ended June 30				
	Total Change to be Recognized	Period [—] (Years)	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



Actuarial Assumptions and Methods

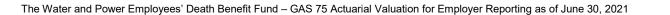
For June 30, 2020 Measurement Date and Employer Reporting as of June 30, 2021

Rationale for Assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is generally shown in the July 1, 2015 through June 30, 2018 Actuarial Experience Study and our supplemental letter entitled Review of Investment Return Assumption for Death and Disability Funds both dated June 12, 2019. All actuarial assumptions and methods shown below apply to both Tier 1 and Tier 2 members.

Actuarial Assumptions

Family Composition at Death for Active Members:	Plan	Supplemental Family Plan Family Death Benefits Death Benefit						
	Fidii	ranny Death Denents	Death Denent					
	Not Married; No Children	20%	0%					
	Not Married; One Child	5%	15%					
	Not Married; 2+ Children	7%	17%					
	Married; No Children	16%	0%					
	Married; One Child	15%	22%					
	Married; 2+ Children	30%	39%					
	Married; One Disabled Child	7%	7%					
	1 st Child's Age	10	10					
	2 nd Child's Age	8	8					





	at any age. Healthy child payments are assumed to end when the child reaches age 18. Disabled child payments are assumed to continue for life.
Other Actuarial Assumptions:	Same as those used in July 1, 2020 actuarial valuation report for the Retirement Plan

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.
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

There have been no changes in actuarial assumptions since the last valuation.



Appendix A: Projection of Plan Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2020

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Investment Earnings (d)	Projected Ending Plan Fiduciary Net Position (e) = (a) + (b) - (c) + (d)
2020	\$37,364,822	\$13,526,789	\$7,374,232	\$1,415,439	\$44,932,818
2021	44,932,818	13,389,682	7,418,820	1,677,139	52,580,819
2022	52,580,819	13,263,702	7,484,777	1,941,460	60,301,203
2023	60,301,203	13,131,350	7,584,229	2,207,617	68,055,941
2024	68,055,941	13,002,876	7,647,787	2,475,672	75,886,703
2025	75,886,703	12,898,556	7,753,212	2,746,078	83,778,124
2026	83,778,124	12,794,642	7,897,288	3,017,938	91,693,416
2027	91,693,416	12,695,923	8,030,857	3,290,908	99,649,390
2028	99,649,390	12,593,075	8,157,592	3,565,350	107,650,223
2029	107,650,223	12,477,446	8,289,049	3,841,055	115,679,675
2045	129,196,515	1,622,492	8,935,084	4,393,908	126,277,831
2046	126,277,831	1,469,728	8,863,073	4,290,341	123,174,826
2047	123,174,826	1,309,277	8,758,907	4,180,750	119,905,946
2048	119,905,946	1,138,832	8,626,497	4,065,674	116,483,956
2049	116,483,956	955,726	8,457,743	3,945,653	112,927,592
2094	2,859,350	0	562,503	90,233	2,387,081
2095	2,387,081	0	462,446	75,455	2,000,090
2096	2,000,090	0	373,731	63,463	1,689,822
2097	1,689,822	0	296,571	53,954	1,447,204
2098	1,447,204	0	230,725	46,614	1,263,093
2119	1,422,614	0	1	49,791	1,472,404
2120	1,472,404				
2120	Discounted Value: 47,205 *				

\$1,472,404 when discounted with interest at the rate of 3.50% per annum has a value of \$47,205 as of June 30, 2020.



Notes

- 1. Amounts may not total exactly due to rounding.
- 2. Various years have been omitted from this table.
- 3. Column (a): Except for the "discounted value" shown for 2120, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.
- 4. Column (b): Projected total contributions include employee and employer Normal Cost contributions based on closed group projections (based on covered active members as of June 30, 2020), plus employer contributions to the Unfunded Actuarial Accrued Liability. Contributions are assumed to occur halfway through the year, on average.
- Column (c): Projected benefit payments have been determined in accordance with paragraphs 43 44 of GASB Statement No. 74, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2020. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2020 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 3.50% 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 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 3.50% per annum was applied to all periods of projected benefit payments to determine the Total OPEB Liability as of June 30, 2020 shown earlier in this report, pursuant to paragraph 48 of GASB Statement No. 74.
- 9. This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

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Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 75. The terms may have different meanings in other contexts.

Active Employees:	Individuals employed at the end of the reporting or measurement period, as applicable.
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 OPEB Liability, and related actuarial present value of projected benefit payments for OPEB benefits 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 OPEB 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.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Agent Employer:	An employer whose employees are provided with OPEB benefits through an agent multiple- employer defined benefit plan.
Agent Multiple-Employer Defined Benefit OPEB Plan (Agent OPEB Plan):	A multiple-employer defined benefit OPEB plan in which OPEB 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 OPEB 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 OPEB 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.
Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB:	Deferred outflows of resources and deferred inflows of resources related to OPEB arising from certain changes in the collective Net OPEB Liability or collective Total OPEB Liability.
Collective Net OPEB Liability:	The Net OPEB Liability for benefits provided through (1) a cost-sharing OPEB plan or (2) a single-employer OPEB plan or an agent OPEB plan in circumstances in which there is a special funding situation.
Collective OPEB Expense:	OPEB expense arising from certain changes in the collective Net OPEB Liability or collective Total OPEB Liability.
Contributions:	Additions to an OPEB Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government OPEB plan), or employees.
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 benefit through a cost-sharing multiple- employer defined benefit OPEB plan.
Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (Cost-Sharing OPEB Plan):	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides benefits through the OPEB plan.
Covered Payroll:	Payroll on which contributions to the OPEB plan are based.
Defined Benefit OPEB Plans:	OPEB plans that are used to provide defined benefit OPEB.
Defined Benefit OPEB benefit:	Benefits 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 benefit 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 benefit that does not meet the criteria of a defined contribution OPEB benefit is classified as a defined benefit OPEB benefit for purposes of Statement 75.)
Defined Contribution OPEB Plans:	OPEB plans that are used to provide defined contribution benefits.



Defined Contribution OPEB benefits:	OPEB benefits 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 benefit 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 OPEB plan administrative costs, that are allocated to the employee's account.
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 OPEB Plan Fiduciary Net Position is projected (under the requirements of Statement 75) to be greater than the benefit payments that are projected to be made in that period and (b) OPEB 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 OPEB plan investments.
Entry Age Actuarial Cost Method:	 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate. 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 OPEB Plan:	A defined benefit OPEB plan that is used to provide benefits to the employees of more than one employer.
Net OPEB Liability (NOL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit OPEB plan.
Other Postemployment Benefits (OPEB):	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a OPEB plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
OPEB Plans:	Arrangements through which benefits are determined, assets dedicated for OPEB are accumulated and managed and benefits are paid as they come due.



Individuals that are covered under the terms of an OPEB 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).
The period after employment.
Adjustments to the benefits of an inactive employee.
Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
All benefits estimated to be payable through the OPEB plan to current active and inactive employees as a result of their past service and their expected future service.
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.
The rate of return on an investment after adjustment to eliminate inflation.
The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
An employer whose employees are provided with benefits through a single-employer defined benefit OPEB plan.
A defined benefit OPEB plan that is used to provide benefits to employees of only one employer.
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.
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 75.

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