The Water and Power Employees' Retirement Plan of the City of Los Angeles

Actuarial Valuation and Review as of July 1, 2014

Segal Consulting

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Founded in 1939

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September 16, 2014

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

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2014. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2014-2015 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement Plan. The census information 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

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

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, MAAA, EA, FCA	*John Monroe, ASA, MAAA, EA*
Senior Vice President and Actuary	*Vice President and Associate Actuary*

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SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Purpose

This report has been prepared by Segal Consulting to present a valuation of The Water and Power Employees' Retirement Plan of the City of Los Angeles as of July 1, 2014. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of March 31, 2014, provided by the Retirement Office;
- The assets of the Plan as of June 30, 2014, provided by the Retirement Office;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

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

Ref: Pg. 47

- The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2014 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in Section 4, Exhibit VI of this report. These assumption changes resulted in an increase in the aggregate required contribution rate (all tiers combined) of 8.91% of compensation before reflecting the two-year phase-in adopted by the Board and discussed below. The most significant of the assumption changes is for the mortality assumption which alone increased the required contribution rate by 5.63% of compensation.

Ref: Pg. 51

- A new Tier 2 was adopted that applies to members hired on or after January 1, 2014. Tier 2 contains plan provisions which include a new benefit formula, a three-year final average salary period, a 2% cost-of-living adjustment (COLA) provision, higher member contribution rates and other miscellaneous changes as compared to Tier 1. The results in this report have been prepared including Tier 2 and reflect the demographics of actual members reported to us under that new tier. In addition, there were changes adopted that affect the reciprocity program with the City of Los Angeles. Those changes generally do not have an immediate impact on the valuation results as no future transfers between the City and the DWP are assumed. However, these changes may affect future valuations as members actually transfer under the new reciprocity provisions.

Ref: Pg. 28, 29

- The actuarial accrued liability exceeds the actuarial value of assets, resulting in an Unfunded Actuarial Accrued Liability (UAAL) of $2.10 billion, which is a decrease from $2.14 billion in the previous valuation. The Board's funding policy determines the Department's required contribution as the normal cost increased or offset by a UAAL amortization charge or credit. Under this funding policy, the Plan's UAAL is amortized over various 15-year periods, each beginning with the year that each portion or base of the UAAL was first identified and amortized.

Ref: Pg. 12-14, 15

- The aggregate required contribution rate (before phase-in) increased from 47.30% to 50.62% of pay for the 2014-2015 plan year, which is estimated to be $455.7 million. This includes amortization of the components of the Plan's UAAL over 15-year fixed periods. Under the Plan's funding policy, the required contribution rate continues to be larger than the mandatory 110% matching of the employee contribution for Tier 1.

- The Board elected to phase-in the impact of new actuarial assumptions adopted for the June 30, 2014 valuation on the required contribution rate over a two-year period, beginning with the 2014-2015 fiscal year. The recommended <u>pre-phase-in</u> contribution rates for 2014-2015 are contained in this report. The aggregate required contribution rate after reflecting the phase-in is 46.17% of compensation and is shown in a separate letter that follows this report. All other results shown in this valuation report exclude the effect of the phase-in.

Ref: Pg. 8

- The market value of assets earned a return of 16.9% for the July 1, 2013 to June 30, 2014 plan year. The actuarial value of assets earned a return of 11.6% for the July 1, 2013 to June 30, 2014 plan year due to the deferral of most of the current year investment gains and the recognition of prior investment gains and losses. This resulted in an actuarial gain of $309.6 million when measured against the assumed rate of return of 7.75% for 2013-2014. This actuarial investment gain decreased the aggregate required contribution by 3.79% of compensation.

Ref: Pg. 28, 15

- The salaries for continuing actives increased by 1.6% from the amounts in effect on March 31, 2013 to the amounts in effect on March 31, 2014. Since this increase is less than the average assumed rate of approximately 5.5%, the plan experienced an actuarial gain from individual salary experience. This gain amounted to $168.5 million for the current year, which decreased the aggregate required contribution by 2.06% of compensation.

Ref: Pg. 5

- The total unrecognized return (i.e., the difference between the market value of assets and the "smoothed" actuarial value of assets) changed by $466 million during the plan year from a $269 million unrecognized gain in 2013 to a $735 million unrecognized gain in 2014. This investment gain will be recognized in the determination of the actuarial value of assets over the next few years. This means that, if the Plan earns the assumed rate of investment return of 7.50% per year (net of expenses) on a **market value** basis, then the deferred gains will be recognized over the next few years as shown in the footnote in Chart 7.

- The unrecognized investment gains of $735 million represent about 7.6% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the future recognition of the $735 million in past market gains is expected to have an impact on the Plan's future funded ratio and aggregate required contributions. This potential impact may be illustrated as follows:
  - If the deferred gains were recognized immediately in the actuarial value assets, the funded percentage would increase from 80.9% to 87.6%.
  - If the deferred gains were recognized immediately in the actuarial value of assets, the aggregate required contribution would decrease from 50.62% of covered payroll to 41.69% of covered payroll.

Ref: Pg. 34

Ref: Pg. 5

- This year, the balance in the General Reserve and the Reserve for Investment Gains and Losses increased from $1,843 million as of June 30, 2013 to $1,941 million as of June 30, 2014. These two reserves track changes in the book value of assets. Consistent with prior valuations, this year we have been instructed to include all but $97.1 million of the end of year General Reserve and Reserve for Investment Gains and Losses as valuation assets. The $97.1 million amount is 1% of the end of year market value of assets.
- The actuarial valuation report as of July 1, 2014 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

Ref: Pg. 38-41

- The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. It is important to note that the new GASB rules only redefine pension expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices. Because Statement 68 is not effective until the fiscal year ending June 30, 2015 for employer reporting, we have continued to include financial reporting information in this report in accordance with Statement 27. Financial reporting information for Statement 67 is provided in a separate report that follows this report.

Summary of Key Valuation Results

	2014		2013	
Required Contributions for plan year beginning July 1 (Before Phase-in) [1]:	**Rate**	**Estimated Annual Amount**	**Rate**	**Estimated Annual Amount**
Tier 1 & Tier 2 Combined (aggregate)	50.62%	$455,682,592	47.30%	$425,784,740
Tier 1	50.72%	$452,871,173	47.30%	$425,784,740
Tier 2 [2]	39.27%	$2,811,419	37.22%	$0

Funding elements for plan year beginning July 1:	**2014**	**2013**
Total Normal cost (beginning of year)	$214,735,027	$193,661,118
Market value of assets (MVA)	9,710,178,432	8,310,729,662
Actuarial value of assets (AVA)	8,877,594,529	7,958,487,587
Actuarial accrued liability (AAL)	10,975,550,617	10,094,867,871
Unfunded/(overfunded) actuarial accrued liability on AVA basis	2,097,956,088	2,136,380,284
Unfunded/(overfunded) actuarial accrued liability on MVA basis	1,265,372,185	1,784,138,209
Funded ratio on AVA basic (AVA/AAL)	80.89%	78.84%
Funded ratio on MVA basic (MVA/AAL)	88.47%	82.33%
GASB 27 for plan year beginning July 1:		
Annual pension cost	$458,779,702	$391,121,468
Actual contributions	--	384,265,892
Percentage contributed	--	98.25%
Covered payroll[3]	$900,126,274	$819,923,866

(1) *Required contributions are assumed to be paid at the middle of every year. The July 1, 2014 contribution rates are before adjustments to phase-in over two years the required contribution rate impact of new assumptions adopted for the July 1, 2014 valuation.*

(2) *The July 1, 2013 contribution rate for Tier 2 is from our New Tier Study dated November 4, 2013.*

(3) *For 2013, this represents the actual covered payroll for 2013-2014 as reported by the Retirement Office. For 2014, this is an estimate for 2014-2015.*

Summary of Key Valuation Results (continued)

	2014	2013
Demographic data for plan year beginning July 1:		
Number of retired members and beneficiaries	8,739	8,642
Number of vested former members[3]	1,484	1,555
Number of active members	8,960	8,913
Total compensation	$900,126,274	$900,254,454
Average compensation	$100,461	$101,005

[3] *Includes terminated members due a refund of employee contributions and members receiving Permanent Total Disability (PTD) benefits.*

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2005 – 2014

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2005	7,967	1,397	8,868	1.29
2006	7,926	1,481	8,817	1.30
2007	7,993	1,535	8,746	1.29
2008	8,164	1,548	8,670	1.25
2009	8,868	1,742	8,505	1.16
2010	9,295	1,739	8,468	1.10
2011	9,203	1,694	8,496	1.11
2012	8,962	1,648	8,510	1.13
2013	8,913	1,555	8,642	1.14
2014	8,960	1,484	8,739	1.14

**Includes terminated members due a refund of employee contributions and members receiving PTD benefits.*

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 8,960 active members with an average age of 49.3, average years of service of 18.3 years and average compensation of $100,461. The 8,913 active members in the prior valuation had an average age of 49.3, average service of 18.4 years and average compensation of $101,005.

Inactive Members

In this year's valuation, there were 1,484 members with a vested right to a deferred or immediate vested benefit, or entitled to a return of their employee contributions, versus 1,555 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of July 1, 2014

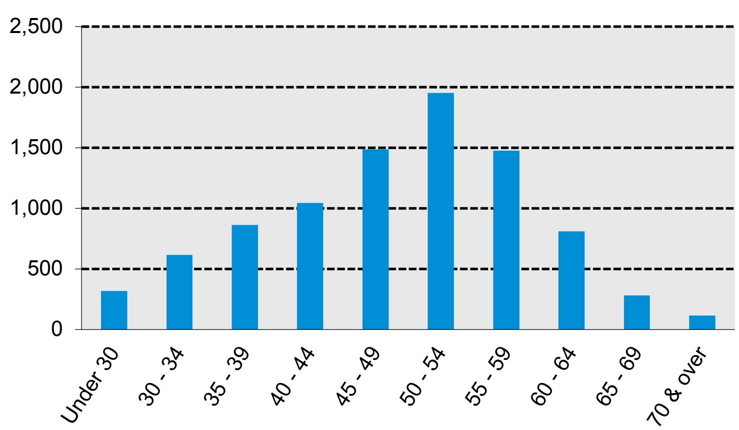
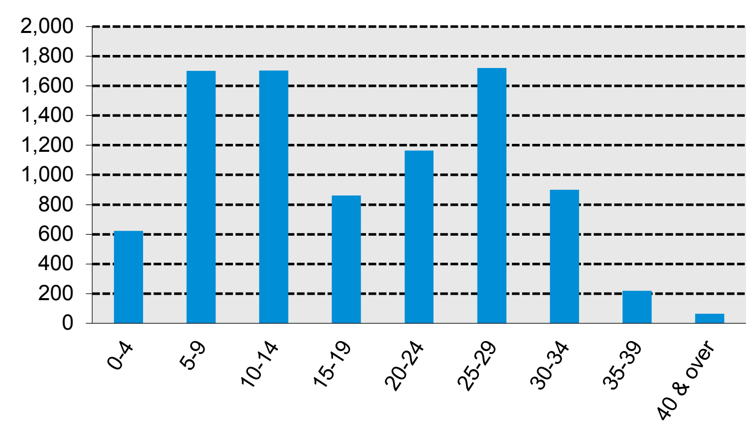


CHART 3

Distribution of Active Members by Years of Service as of July 1, 2014



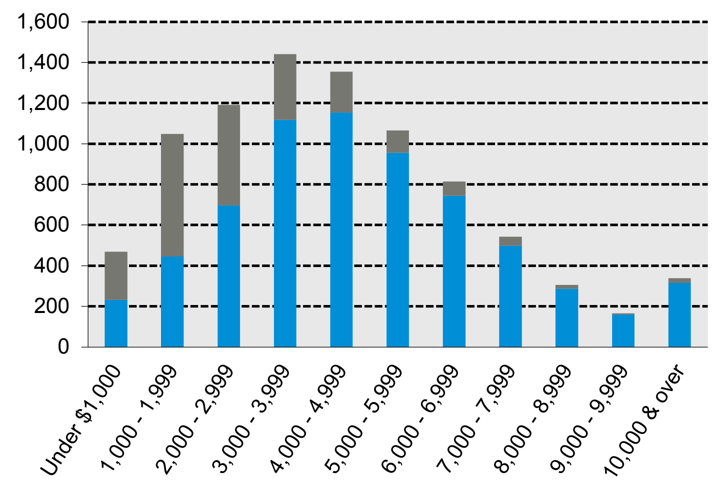
Retired Members and Beneficiaries

As of July 1, 2014, 6,600 retired members and 2,139 beneficiaries were receiving total monthly benefits of $39,552,780. For comparison, in the previous valuation, there were 6,495 retired members and 2,147 beneficiaries receiving monthly benefits of $37,501,928.

These graphs show a distribution of the current retired members and beneficiaries based on their monthly amount and age.

CHART 4

Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of July 1, 2014

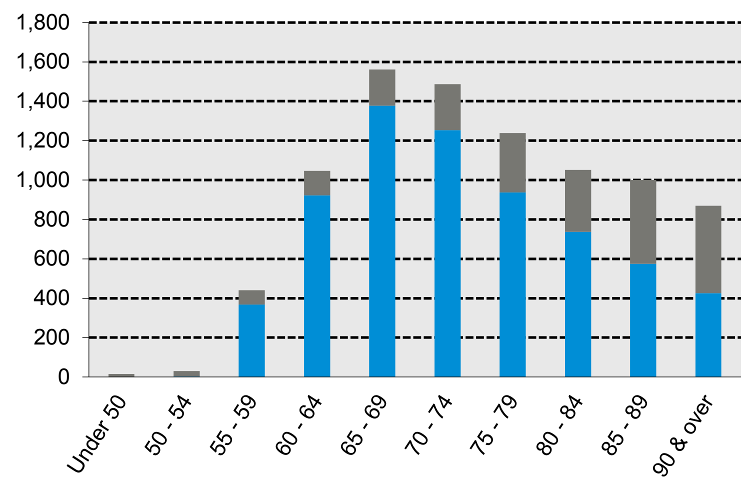


Beneficiarires

Retired Members

CHART 5

Distribution of Retired Members and Beneficiaries by Type and by Age as of July 1, 2014



B. FINANCIAL INFORMATION

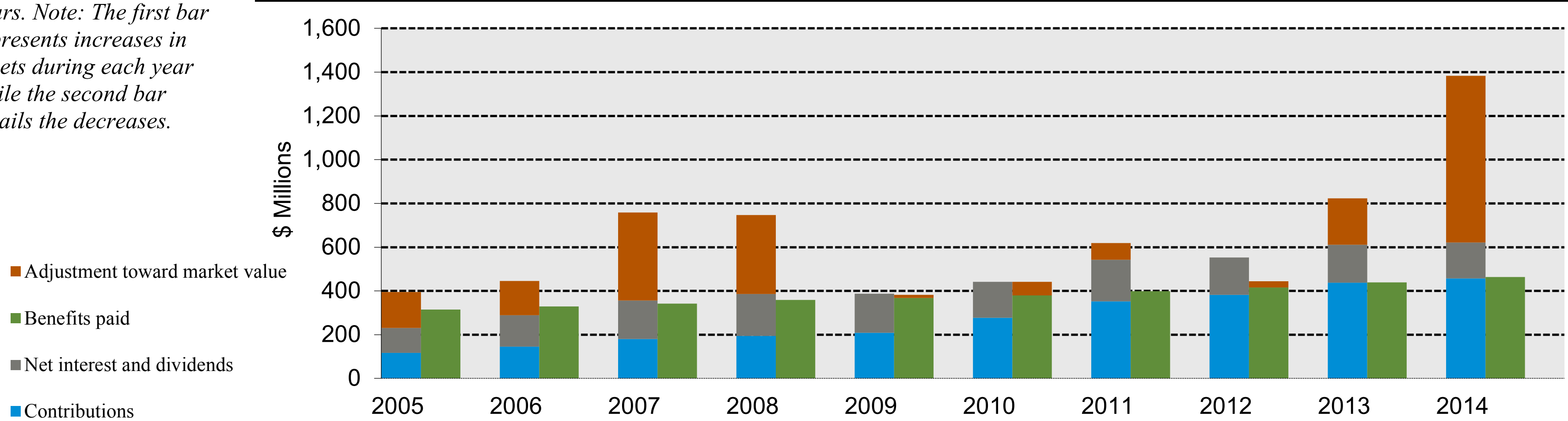
Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D, E and F.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2005 – 2014



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative.

Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Please note that as instructed by Plan staff, we have included all but $97.1 million (1% of the end of year market value of assets) in the General Reserve and Reserve for Investments Gains and Losses as valuation assets.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2014

1	Market value of assets, June 30, 2014			$9,710,178,432
2	Calculation of Unrecognized Return	Original Amount*	Unrecognized Return**	
	(a) Year ended June 30, 2014	$762,671,215	$610,136,972	
	(b) Year ended June 30, 2013	349,845,145	209,907,087	
	(c) Year ended June 30, 2012	-568,288,259	-227,315,304	
	(d) Year ended June 30, 2011	713,766,818	142,753,364	
	(e) Year ended June 30, 2010	223,624,452	0	
	(f) Total Unrecognized Return***			735,482,119
3	Gross actuarial value: (1) - (2f)			8,974,696,313
4	Portion of General Reserve and Reserve for Investment Gains and Losses not included as valuation asset			97,101,784
5	Net actuarial value as of June 30, 2014: (3) – (4)			$8,877,594,529
6	Net actuarial value as a percentage of market value: (5) / (1)			91.4%

* *Total return minus expected return on a market value basis*

** *Recognition at 20% per year over 5 years*

*** *Deferred return as of June 30, 2014 recognized in each of the next 4 years:*

(a) Amount recognized during 2014/2015	*$251,598,984*
(b) Amount recognized during 2015/2016	*108,845,620*
(c) Amount recognized during 2016/2017	*222,503,272*
(d) Amount recognized during 2017/2018	*152,534,243*
Subtotal	*$735,482,119*

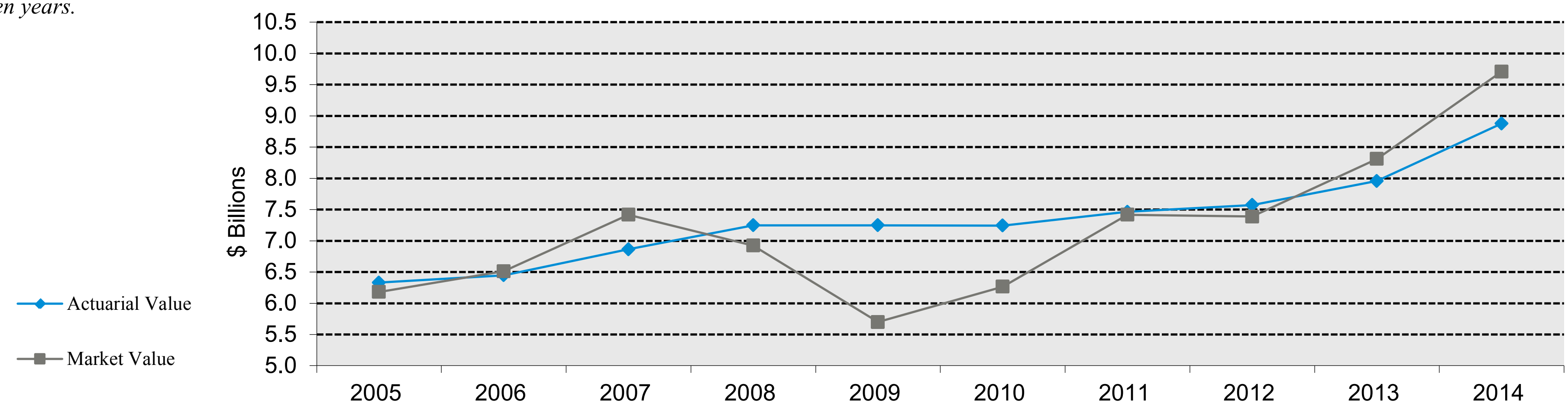
Both the actuarial value and market value of assets are representations of the WPERP's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the WPERP's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Note that in the chart below, actuarial value of assets are exclusive of a small portion of the General Reserve and Reserve for Investment Gains and Losses while that Reserve is included in the development of the Market Value of Assets.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2005 – 2014



C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total gain is $463,850,116, $309,628,147 from investment gains and $154,221,969 in gains from all other sources. The net experience variation from individual sources other than investments was 1.5% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9

Actuarial Experience for Year Ended June 30, 2014

1.	Net gain from investments*	$309,628,147
2.	Net gain from other experience**	154,221,969
3.	Net experience gain: (1) + (2)	$463,850,116

* *Details in Chart 10*

** *See Section 3, Exhibit G. Does not include the effect of Plan or assumption changes.*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the WPERP's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets was 7.75% for the 2013-2014 plan year (based on the July 1, 2013 valuation). The actual rate of return on an actuarial basis for the 2013-2014 plan year was 11.64%.

Since the actual return for the year was greater than the assumed return, the WPERP experienced an actuarial gain during the year ended June 30, 2014 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Market and Actuarial Value Investment Experience for Year Ended June 30, 2014

	Market Value	Actuarial Value
1. Actual return	$1,406,480,292	$926,138,464
2. Average value of assets	8,307,213,901	7,954,971,826
3. Actual rate of return: (1) ÷ (2)	16.93%	11.64%
4. Assumed rate of return	7.75%	7.75%
5. Expected return: (2) x (4)	$643,809,077	$616,510,317
6. Actuarial gain/(loss): (1) – (5)	$762,671,215	$309,628,147

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and ten-year averages.

CHART 11

Investment Return – Actuarial Value vs. Market Value: 2005 - 2014

Year Ended June 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
2005	$114,263,238	1.86%	$164,012,112	2.66%	$278,275,350	4.52%	$419,463,599	7.16%
2006	142,834,044	2.29	157,384,016	2.52	300,218,060	4.81	514,526,795	8.45
2007	175,884,502	2.76	402,557,938	6.33	578,442,440	9.09	1,066,710,135	16.58
2008	191,456,313	2.82	361,168,481	5.33	552,624,794	8.15	-324,830,786	-4.43
2009	178,210,091	2.49	-15,044,818	-0.21	163,165,273	2.28	-1,062,966,407	-15.53
2010	165,427,697	2.30	-61,931,590	-0.86	103,496,107	1.44	675,223,168	11.96
2011	189,663,213	2.63	76,943,548	1.06	266,606,761	3.69	1,197,629,301	19.18
2012	171,625,847	2.30	-28,332,250	-0.38	143,293,597	1.92	5,273,279	0.07
2013	173,531,364	2.29	211,568,037	2.79	385,099,401	5.08	922,455,661	12.48
2014	165,507,432	2.08	760,631,032	9.56	926,138,464	11.64	1,406,480,292	16.93
Total	$1,668,403,741		$2,028,956,506		$3,697,360,247		$4,819,965,037	
					Five-year average return	4.88%		11.98%
					Ten-year average return	5.27%		7.12%

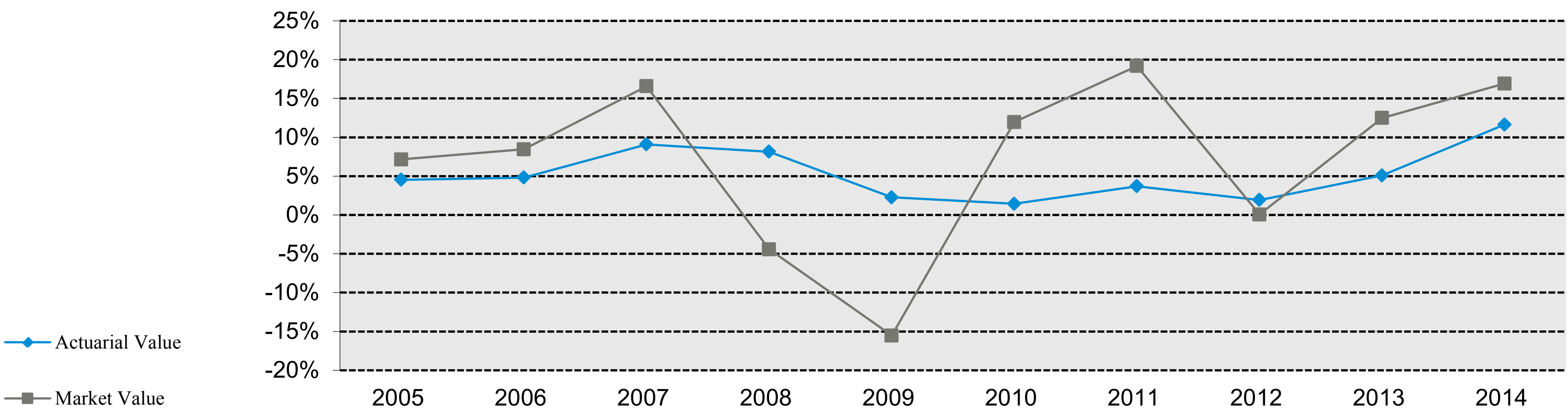
Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2005 - 2014.

CHART 12

Market and Actuarial Rates of Return for Years Ended June 30, 2005 - 2014



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected), and
- salary increases different than assumed.

The net gain from this other experience for the year ended June 30, 2014 amounted to $154,221,969, which is 1.5% of the actuarial accrued liability.

This gain is mainly the result of lower individual salary increases than expected. See Section 3, Exhibit G for a detailed development of the Unfunded Actuarial Accrued Liability.

D. REQUIRED CONTRIBUTION

The required Department contribution is made up of (a) the normal cost and (b) the amortization of the unfunded or overfunded actuarial accrued liability. For this year, amortization bases are created for the actuarial gain during the plan year ending June 30, 2014 and for the assumption changes. This produces a net total amortization charge of $281,107,904.

Under the current funding policy, the Department's required contribution rate increased as a percentage of pay. This was primarily the result of the assumption changes, offset somewhat by the "smoothed" investment return being greater than assumed and other favorable actuarial experience.

Chart 13 first shows the development of the required Department contribution for the total Plan. Similar information is then shown in Tier 1 and Tier 2 separately.

The chart compares this valuation's required contribution with the prior valuation.

CHART 13

Required Contribution

	Year Beginning July 1			
	2014*		2013	
All Tiers Combined (Aggregate)	**Amount**	**% of Payroll**	**Amount**	**% of Payroll**
1. Total normal cost	$214,735,027	23.85%	$193,661,118	21.51%
2. Expected employee contributions	-56,630,795	-6.29%	-57,765,793	-6.41%
3. Employer normal cost: (1) + (2)	$158,104,232	17.56%	$135,895,325	15.10%
4. Actuarial accrued liability	10,975,550,617		10,094,867,871	
5. Actuarial value of assets	8,877,594,529		7,958,487,587	
6. Unfunded actuarial accrued liability: (4) - (5)	$2,097,956,088		$2,136,380,284	
7. Amortization of unfunded actuarial accrued liability	281,107,904	31.23%	274,005,748	30.44%
8. Total required contribution: (3) + (7), adjusted for timing**	455,682,592	50.62%	425,784,740	47.30%
9. Projected compensation	$900,126,274		$900,254,454	

* *The July 1, 2014 contribution rates are before adjustment to phase-in over two years the contribution rate impact of new actuarial assumptions adopted as recommended in the June 30, 2012 Actuarial Experience Study.*

** *Required contributions are assumed to be paid at the middle of every year.*

CHART 13 (continued)

Required Contribution

	Year Beginning July 1			
	2014*		2013	
Tier 1	**Amount**	**% of Payroll**	**Amount**	**% of Payroll**
1. Total normal cost	$213,550,258	23.91%	$193,661,118	21.51%
2. Expected employee contributions	-55,920,064	-6.26%	-57,765,793	-6.41%
3. Employer normal cost: (1) + (2)	157,630,194	17.65%	$135,895,325	15.10%
4. Actuarial accrued liability	10,975,236,889		10,094,867,871	
5. Amortization of unfunded actuarial accrued liability**	278,872,141	31.23%	274,005,748	30.44%
6. Total required contribution: (3) + (5), adjusted for timing***	452,871,173	50.72%	425,784,740	47.30%
7. Employer match (110% of (2)), adjusted for timing***	63,818,773	7.15%	66,004,639	7.33%
8. Greater of employer match (7) or total required contribution (6)	$452,871,173	50.72%	$425,784,740	47.30%
9. Projected compensation	$892,967,211		$900,254,454	

* *The July 1, 2014 contribution rates are before adjustment to phase-in over two years the contribution rate impact of new actuarial assumptions adopted as recommended in the June 30, 2012 Actuarial Experience Study.*

** *The same UAAL contribution rate is charged to both Tier 1 and Tier 2.*

*** *Required contributions are assumed to be paid at the middle of every year.*

CHART 13 (continued)

Required Contribution

	Year Beginning July 1			
	2014*		2013	
Tier 2	**Amount**	**% of Payroll**	**Amount**	**% of Payroll******
1. Total normal cost	$1,184,769	16.55%		15.32%
2. Expected employee contributions	-710,731	-9.93%		-9.92%
3. Employer normal cost: (1) + (2)	$474,038	6.62%		5.40%
4. Actuarial accrued liability	313,728			
5. Amortization of unfunded actuarial accrued liability**	2,235,763	31.23%		30.44%
6. Total required contribution: (3) + (5), adjusted for timing***	2,811,419	39.27%		37.22%
7. Projected compensation	$7,159,063			

* *The July 1, 2014 contribution rates are before adjustment to phase-in over two years the contribution rate impact of new actuarial assumptions adopted as recommended in the June 30, 2012 Actuarial Experience Study.*

** *The same UAAL contribution rate is charged to both Tier 1 and Tier 2*

*** *Required contributions are assumed to be paid at the middle of every year.*

**** *These contribution rates are from our new tier study dated November 4, 2013. No dollar amounts are shown as there was no Tier 2 payroll as of this date.*

The contribution requirements as of July 1, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Required Contribution

The chart below details the changes in the aggregate required contribution from the prior valuation to the current year's valuation

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 14

Reconciliation of Aggregate Required Contribution Rate from July 1, 2013 to July 1, 2014

Aggregate Required Contribution Rate as of July 1, 2013	47.30%
Effect of investment gain	-3.79%
Effect of actual contributions less than expected contributions	0.36%
Effect of gains on individual salary experience	-2.06%
Effect of increase in total payroll on UAAL amortization rate	-0.18%
Effect of gains on 2013 COLA experience	-0.67%
Effect of other experience*	0.75%
Effect of assumption changes	8.91%
Total change	3.32%
Aggregate Required Contribution Rate as of July 1, 2014**	50.62%

* *Includes effect of differences in actual versus expected experience including mortality, disability, withdrawal and retirement experience.*

** *The July 1, 2014 contribution rates are before adjustment to phase-in over two years the contribution rate impact of new actuarial assumptions adopted as recommended in the June 30, 2012 Actuarial Experience Study.*

E. INFORMATION REQUIRED BY GASB 27

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of the GASB reporting requirements. Chart 15 below presents a graphical representation of this information for the Plan.

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated under the GASB Standards. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. This information is shown in Chart 16.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 15

Required Versus Actual Contributions

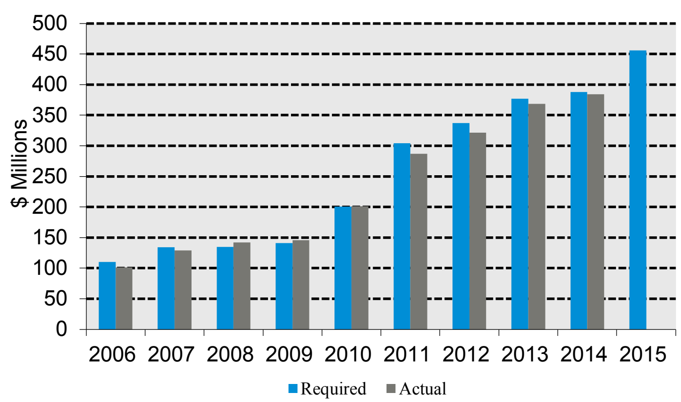
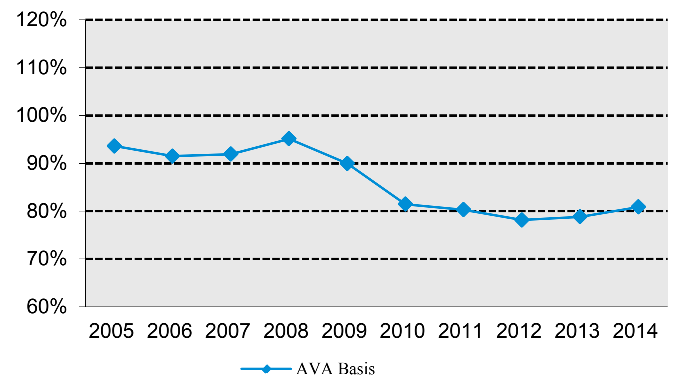


CHART 16

Funded Ratio



F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For WPERP, the current AVR is about 10.8. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 10.8% of one-year's payroll. Since WPERP amortizes actuarial gains and losses over a period of 15 years, there would be a 1.2% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For WPERP, the current LVR is about 12.2. This is about 13% higher than AVR. Therefore we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 17

Volatility Ratios for Years Ended June 30, 2008 – 2014

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2008	9.8	10.8
2009	7.1	10.0
2010	7.3	10.4
2011	8.5	10.7
2012	8.3	10.9
2013	9.2	11.2
2014	10.8	12.2

EXHIBIT A

Table of Plan Coverage

i. Total

Category	Year Ended July 1 2014	Year Ended July 1 2013	Change From Prior Year
Active members in valuation:			
Number	8,960	8,913	0.5%
Average age	49.3	49.3	N/A
Average years of service	18.3	18.4	N/A
Projected total compensation	$900,126,274	$900,254,454	0.0%
Projected average compensation	100,461	101,005	-0.5%
Account balances	1,262,513,618	1,195,199,080	5.6%
Vested terminated members:*			
Number	1,484	1,555	-4.6%
Average age	54.3	53.8	N/A
Average account balances	$60,169	$54,372	10.7%
Retired members:			
Number in pay status	6,600	6,495	1.6%
Average age	73.2	73.3	N/A
Average monthly benefit	$5,042	$4,844	4.1%
Beneficiaries:			
Number in pay status	2,139	2,147	-0.4%
Average age	79.6	79.6	N/A
Average monthly benefit	$2,933	$2,813	4.3%

** Includes terminated members due a refund of contributions and members receiving PTD benefits.*

EXHIBIT A

Table of Plan Coverage

ii. Tier 1

Category	Year Ended July 1 2014	Year Ended July 1 2013	Change From Prior Year
Active members in valuation:			
Number	8,855	8,913	-0.7%
Average age	49.4	49.3	N/A
Average years of service	18.6	18.4	N/A
Projected total compensation	$892,967,211	$900,254,454	-0.8%
Projected average compensation	100,843	101,005	-0.2%
Account balances	1,262,434,986	1,195,199,080	5.6%
Vested terminated members:*			
Number	1,484	1,555	-4.6%
Average age	54.3	53.8	N/A
Average account balances	$60,169	$54,372	10.7%
Retired members:			
Number in pay status	6,600	6,495	1.6%
Average age	73.2	73.3	N/A
Average monthly benefit	$5,042	$4,844	4.1%
Beneficiaries:			
Number in pay status	2,139	2,147	-0.4%
Average age	79.6	79.6	N/A
Average monthly benefit	$2,933	$2,813	4.3%

** Includes terminated members due a refund of contributions and members receiving PTD benefits.*

EXHIBIT A

Table of Plan Coverage

iii. Tier 2

Category	Year Ended July 1 2014	Year Ended July 1 2013	Change From Prior Year
Active members in valuation:			
Number	105	0	N/A
Average age	39.3	N/A	N/A
Average years of service	0.4	N/A	N/A
Projected total compensation	$7,159,063	N/A	N/A
Projected average compensation	68,182	N/A	N/A
Account balances	78,632	N/A	N/A
Vested terminated members:*			
Number	0	0	N/A
Average age	N/A	N/A	N/A
Average account balances	N/A	N/A	N/A
Retired members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

* *Includes terminated members due a refund of contributions and members receiving PTD benefits.*

EXHIBIT B

Members in Active Service as of July 1, 2014
By Age, Years of Service, and Average Compensation

i. Total

		Years of Service								
Age	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	58	56	2	- -	- -	- -	- -	- -	- -	- -
	$81,571	$80,506	$111,386	- -	- -	- -	- -	- -	- -	- -
25 - 29	260	140	119	1	- -	- -	- -	- -	- -	- -
	91,571	83,544	101,298	$57,895	- -	- -	- -	- -	- -	- -
30 - 34	616	128	375	110	3	- -	- -	- -	- -	- -
	96,328	81,077	100,354	100,586	$87,626	- -	- -	- -	- -	- -
35 - 39	862	96	346	338	81	1	- -	- -	- -	- -
	95,473	77,784	94,707	101,864	93,329	$72,724	- -	- -	- -	- -
40 - 44	1,043	66	284	373	226	85	9	- -	- -	- -
	94,747	81,395	91,076	94,572	94,722	117,899	$97,773	- -	- -	- -
45 - 49	1,485	52	215	331	196	374	305	12	- -	- -
	101,500	81,887	90,756	94,138	97,607	114,281	107,200	$102,421	- -	- -
50 - 54	1,953	43	171	253	160	330	670	313	13	- -
	104,358	85,379	90,160	92,240	93,681	103,747	110,900	116,535	$106,252	- -
55 - 59	1,476	21	114	155	102	222	399	365	98	- -
	106,595	102,486	89,805	91,810	93,997	105,120	106,771	119,824	116,848	- -
60 - 64	811	12	55	99	61	99	232	145	78	30
	99,665	73,469	88,263	89,293	95,004	98,586	103,571	104,732	103,561	$113,482
65 - 69	281	6	14	34	26	34	74	54	24	15
	99,721	122,552	86,638	88,299	95,213	92,987	101,531	106,661	103,909	111,156
70 & over	115	3	5	10	7	20	32	11	7	20
	90,500	37,239	49,966	72,508	97,939	92,719	90,452	104,244	96,520	103,207
Total	8,960	623	1,700	1,704	862	1,165	1,721	900	220	65
	$100,461	$82,234	$94,135	$95,142	$95,004	$107,454	$107,447	$115,037	$109,453	$109,784

EXHIBIT B

Members in Active Service as of July 1, 2014
By Age, Years of Service, and Average Compensation

ii. Tier 1

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 & over**
Under 25	52	50	2	- -	- -	- -	- -	- -	- -	- -
	$84,313	$83,230	$111,386	- -	- -	- -	- -	- -	- -	- -
25 - 29	250	130	119	1	- -	- -	- -	- -	- -	- -
	92,914	85,509	101,298	$57,895	- -	- -	- -	- -	- -	- -
30 - 34	595	107	375	110	3	- -	- -	- -	- -	- -
	97,463	84,396	100,354	100,586	$87,626	- -	- -	- -	- -	- -
35 - 39	836	70	346	338	81	1	- -	- -	- -	- -
	96,479	83,219	94,707	101,864	93,329	$72,724	- -	- -	- -	- -
40 - 44	1,031	54	284	373	226	85	9	- -	- -	- -
	95,078	84,733	91,076	94,572	94,722	117,899	$97,773	- -	- -	- -
45 - 49	1,475	42	215	331	196	374	305	12	- -	- -
	101,769	86,676	90,756	94,138	97,607	114,281	107,200	$102,421	- -	- -
50 - 54	1,939	29	171	253	160	330	670	313	13	- -
	104,577	90,864	90,160	92,240	93,681	103,747	110,900	116,535	$106,252	- -
55 - 59	1,471	16	114	155	102	222	399	365	98	- -
	106,461	88,909	89,805	91,810	93,997	105,120	106,771	119,824	116,848	- -
60 - 64	811	12	55	99	61	99	232	145	78	30
	99,665	73,469	88,263	89,293	95,004	98,586	103,571	104,732	103,561	$113,482
65 - 69	280	5	14	34	26	34	74	54	24	15
	99,854	134,555	86,638	88,299	95,213	92,987	101,531	106,661	103,909	111,156
70 & over	115	3	5	10	7	20	32	11	7	20
	90,500	37,239	49,966	72,508	97,939	92,719	90,452	104,244	96,520	103,207
Total	8,855	518	1,700	1,704	862	1,165	1,721	900	220	65
	$100,843	$85,083	$94,135	$95,142	$95,004	$107,454	$107,447	$115,037	$109,453	$109,784

EXHIBIT B

Members in Active Service as of July 1, 2014
By Age, Years of Service, and Average Compensation

iii. Tier 2

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 & over**
Under 25	6	6	- -	- -	- -	- -	- -	- -	- -	- -
	$57,806	$57,806	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	10	10	- -	- -	- -	- -	- -	- -	- -	- -
	58,007	58,007	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	21	21	- -	- -	- -	- -	- -	- -	- -	- -
	64,166	64,166	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	26	26	- -	- -	- -	- -	- -	- -	- -	- -
	63,152	63,152	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	12	12	- -	- -	- -	- -	- -	- -	- -	- -
	66,378	66,378	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	10	10	- -	- -	- -	- -	- -	- -	- -	- -
	61,776	61,776	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	14	14	- -	- -	- -	- -	- -	- -	- -	- -
	74,017	74,017	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	5	5	- -	- -	- -	- -	- -	- -	- -	- -
	145,934	145,934	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	62,536	62,536	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	105	105	- -	- -	- -	- -	- -	- -	- -	- -
	$68,182	$68,182	- -	- -	- -	- -	- -	- -	- -	- -

EXHIBIT C

Reconciliation of Member Data

	Active Members	Vested Terminated Members*	Retired Members	Beneficiaries	Total
Number as of July 1, 2013	8,913	1,555	6,495	2,147	19,110
New members	469	N/A	N/A	N/A	469
Terminations – with vested rights	-58	58	N/A	N/A	0
Retirements	-331	-18	349	N/A	0
Died with beneficiary	-7	0	-90	97	0
Died without beneficiary	-14	-6	-154	-138	-312
Rehire	14	-14	0	N/A	0
Data adjustments	0	0	0	33**	33
Contribution refunds	-26	-91	N/A	N/A	-117
Number as of July 1, 2014	8,960	1,484	6,600	2,139	19,183

* *Includes terminated members due a refund of member contributions and members receiving PTD benefits.*

** *Includes 14 assignee records for Options B and C. Last year the benefits for these assignees was combined with the benefit for the corresponding retired members.*

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2014		Year Ended June 30, 2013	
Net assets at actuarial value at the beginning of the year		$7,958,487,587		$7,573,885,754
Contribution income:				
Employer contributions	$384,265,892		$368,426,348	
Employee contributions	72,299,526		69,633,449	
Administrative expense contributions*	4,872,432		4,392,846	
Net contribution income		461,437,850		442,452,643
Investment income:				
Interest, dividends and other income	$186,001,646		$189,623,649	
Adjustment toward market value	760,631,032		211,568,037	
Less investment and administrative fees	-25,366,646		-20,485,131	
Net investment income		921,266,032		380,706,555
Total income available for benefits		$1,382,703,882		$823,159,198
Less benefit payments:				
Retirement benefits paid	-$457,558,214		-$432,738,112	
Refund of members' contributions	-6,038,726		-5,819,253	
Net benefit payments		-$463,596,940		-$438,557,365
Change in reserve for future benefits		$919,106,942		$384,601,833
Net assets at actuarial value at the end of the year		$8,877,594,529		$7,958,487,587

* *Included as investment income in other parts of this report (excluding Exhibit F).*

EXHIBIT E

Summary Statement of Plan Assets

	Year Ended June 30, 2014		Year Ended June 30, 2013	
Cash equivalents		$13,267,453		$9,499,976
Accounts receivable:				
Accrued investment income	$18,388,786		$19,076,213	
Open investment trades and others	160,433,225		287,853,048	
Securities lending - collateral	999,882,392		313,092,487	
Department of Water and Power	53,102,730		51,374,267	
Total accounts receivable		1,231,807,133		671,396,015
Investments:				
Fixed income	$2,010,736,243		$2,015,837,548	
Equities	6,448,966,735		5,189,194,044	
Other assets	1,266,794,085		1,119,613,544	
Total investments at market value		9,726,497,063		8,324,645,136
Total assets		$10,971,571,649		$9,005,541,127
Less accounts payable:				
Accounts payable	-$261,510,825		-$381,718,978	
Security lending - collateral	-999,882,392		-313,092,487	
Total accounts payable		-$1,261,393,217		-$694,811,465
Net assets at market value		$9,710,178,432		$8,310,729,662*
Net assets at actuarial value		$8,877,594,529		$7,958,487,587

** Based on draft financial statements. Subsequent to June 30, 2013 valuation, the market value of assets was changed to $8,304,011,429.*

EXHIBIT F

Development of the Fund Through June 30, 2014

Year Ended June 30	Employer Contributions	Employee Contributions*	Other Contributions	Net Investment Return**	Benefit Payments	Actuarial Value of Assets at End of Year
2005	$75,490,143	$38,855,089	$2,534,097	$278,275,350	$315,528,276	$6,331,047,528
2006	101,556,257	41,324,895	2,914,174	300,218,060	329,297,478	6,447,763,436
2007	129,154,539	47,060,446	3,549,724	578,442,440	341,886,580	6,864,084,005
2008	141,862,126	48,694,047	4,195,096	548,429,698	359,411,739	7,247,853,233
2009	145,941,275	59,405,012	4,088,598	159,076,675	367,643,541	7,248,721,252
2010	201,034,807	71,246,053	4,463,141	99,032,966	380,068,530	7,244,429,689
2011	286,699,384	65,965,607	5,672,227	260,934,534	398,517,798	7,465,183,643
2012	321,688,919	60,105,653	5,428,297	137,856,300	416,386,058	7,573,885,754
2013	368,426,348	69,633,449	4,392,846	380,706,555	438,557,365	7,958,487,587
2014	384,265,892	72,299,526	4,872,432	921,266,032	463,596,940	8,877,594,529

* *Includes member normal contributions, Additional Annuity program contributions, contributions due to open contracts for purchased service and member contributions transferred from LACERS.*

** *Net of investment fees and administrative expenses.*

EXHIBIT G

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2014

1. Unfunded actuarial accrued liability at beginning of year		$2,136,380,284
2. Normal cost at beginning of year		193,661,118
3. Total actual contributions (employer and employee)		-456,565,418
4. Interest		
(a) For whole year on (1) + (2)	$180,578,209	
(b) For half year on (3)	-17,691,910	
(c) Total interest		162,886,299
5. Expected unfunded actuarial accrued liability		$2,036,362,283
6. Changes due to:*		
(a) Investment gain	-$309,628,147	
(b) Gains on individual salary experience	-168,474,032	
(c) Gains on 2013 COLA experience	-54,809,570	
(d) Other losses	69,061,633	
(e) Assumption changes	525,443,921	
(f) Total changes		61,593,805
7. Unfunded actuarial accrued liability at end of year		$2,097,956,088

Note: The "Net gain from other experience" of $154,221,969 shown in Section 2, Chart 9 is equal to the sum of items 6(b), 6(c) and 6(d).

** Does not include a contribution loss of $29,653,721 during the year from actual contributions less than expected.*

EXHIBIT H

Table of Amortization Bases

Type*	Date Established	Initial Years	Initial Amount	Annual Payment**	Years Remaining	Outstanding Balance
Combined Base	07/01/2004	15	$170,392,797	$18,204,938	5.00	$79,179,216
Actuarial Loss	07/01/2005	15	267,915,003	28,570,227	6.00	144,162,078
Actuarial Loss	07/01/2006	15	183,420,211	19,523,903	7.00	111,166,105
Actuarial Loss	07/01/2007	15	47,238,833	5,019,325	8.00	31,604,689
Assumption Changes	07/01/2007	15	-18,102,738	-1,923,492	8.00	-12,111,462
Actuarial Gain	07/01/2008	15	-204,179,457	-21,657,511	9.00	-148,512,130
Actuarial Loss	07/01/2009	15	457,336,004	48,429,013	10.00	357,352,219
Plan Amendments	07/01/2009	15	2,239,982	237,200	10.00	1,750,274
Actuarial Loss	07/01/2010	15	626,174,290	66,200,651	11.00	520,607,282
Assumption Changes	07/01/2010	15	255,885,598	27,052,841	11.00	212,745,731
Actuarial Loss	07/01/2011	15	268,017,929	28,311,654	12.00	235,423,415
Plan Amendments	07/01/2011	15	-6,948,892	-734,035	12.00	-6,103,816
Actuarial Loss	07/01/2012	15	380,800,633	40,192,486	13.00	351,092,552
Actuarial Loss	07/01/2013	15	133,360,391	14,064,722	14.00	128,352,409
Actuarial Gain	07/01/2014	15	-434,196,395	-45,757,125	15.00	-434,196,395
Assumption Changes	07/01/2014	15	525,443,921	55,373,107	15.00	525,443,921
Total				$281,107,904		$2,097,956,088

* *The outstanding July 1, 2004 amortization bases were combined into a single amortization base and amortized over 15 years.*

** *Level dollar amount. The July 1, 2014 outstanding balances were reamortized by using the new 7.50% interest rate assumption.*

EXHIBIT I

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $210,000 for 2014. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitation. Actual limitations will result in gains when they occur.

EXHIBIT J
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Withdrawal rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT K

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future Department normal cost contributions, and the present value of future Department amortization payments or credits.

Actuarial Balance Sheet

Assets	July 1, 2014	July 1, 2013
1. Total actuarial value of assets	$8,877,594,529	$7,958,487,587
2. Present value of future contribution by members	552,188,620	525,926,011
3. Present value of future Department contributions for:		
(a) entry age normal cost	1,457,792,278	1,233,246,275
(b) unfunded actuarial accrued liability	2,097,956,088	2,136,380,284
4. Total current and future assets	$12,985,531,515	$11,854,040,157

Liabilities	July 1, 2014	July 1, 2013
5. Present value of benefits for retirees and beneficiaries:	$5,627,272,200	$5,061,555,947
6. Present value of benefits for terminated vested members:	202,818,491	178,376,190
7. Present value of benefits for active members:	7,155,440,824	6,614,108,020
8. Total liabilities	$12,985,531,515	$11,854,040,157

EXHIBIT L

Reserves and Designated Balances

		June 30, 2014	June 30, 2013
1.	Reserve for retirement allowance for retired members	$5,707,710,238	$5,374,550,442
2.	Contribution accounts:		
	(a) Members (excluding additional contributions)	1,424,395,594	1,344,895,376
	(b) Department of Water and Power	(1,189,110,780)	(1,194,768,340)
3.	General Reserve and Reserve for Investment Gains and Losses*	1,940,717,726	1,842,530,465
4.	Total	$7,883,712,778	$7,367,207,943

* *Out of the total General Reserve and Reserve for Investment Gains and Losses, $97,101,784 and $83,107,297 are not included as valuation assets as of June 30, 2014 and June 30, 2013, respectively.*

EXHIBIT M
Adjusted Reserves

Each year the Retirement Board adjusts its retired reserves to agree with the value calculated during the valuation. The following table presents the required transfers.

Adjusted Reserves	June 30, 2014	June 30, 2013
1. Retired reserve balance	$5,707,710,238	$5,374,550,442
2. Actuarially computed present value	5,627,272,200	5,061,555,947
3. Actuarial gain (loss): (1) – (2)	80,438,038	312,994,495
4. Transfer from (to) DWP contribution accounts from retired reserves:	(80,438,038)	(312,994,495)

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired members as of the valuation date (including 2,139 beneficiaries in pay status)		8,739
2.	Members inactive during year ended June 30, 2014 with vested rights*		1,484
3.	Members active during the year ended June 30, 2014		8,960

The actuarial factors as of the valuation date are as follows:

1.	Normal cost		$214,735,027
2.	Present value of future benefits		12,985,531,515
3.	Present value of future normal costs		2,009,980,898
4.	Actuarial accrued liability		10,975,550,617
	Retired members and beneficiaries	$5,627,272,200	
	Inactive members with vested rights*	202,818,491	
	Active members	5,145,459,926	
5.	Actuarial value of assets ($9,710,178,432 at market value as reported by Retirement Office)		8,877,594,529
6.	Unfunded actuarial accrued liability		$2,097,956,088

** Includes terminated members due a refund of member contributions and members receiving PTD benefits.*

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the aggregate required contribution for all tiers combined is as follows:

		Dollar Amount	% of Payroll
1.	Total normal cost	$214,735,027	23.85%
2.	Expected employee contributions	-56,630,795	-6.29%
3.	Employer normal cost: (1) + (2)	$158,104,232	17.56%
4.	Amortization of unfunded actuarial accrued liability	281,107,904	31.23%
5.	Total required contribution: (3) + (4), adjusted for timing*	$455,682,592	50.62%
6.	Projected payroll	$900,126,274	

** Required contribution is assumed to be paid at the middle of every year. These amounts are before adjustment to phase-in over two years the contribution rate impact of new actuarial assumptions adopted as recommended in the June 30, 2012 Actuarial Experience Study.*

EXHIBIT II

Supplementary Information Required by GASB 27 – Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Annual Pension Cost	Actual Contributions	Actual Contributions/ Annual Required Contributions	Actual Contributions/ Annual Pension Cost
2006	$110,268,590	$116,651,020	$101,556,257	92.1%	87.1%
2007	134,504,482	140,328,366	129,154,539	96.0%	92.0%
2008	134,651,427	140,061,851	141,862,126	105.4%	101.3%
2009	141,291,588	146,768,605	145,941,275	103.3%	99.4%
2010	200,578,728	206,025,133	201,034,807	100.2%	97.6%
2011	304,431,910	309,794,712	286,699,384	94.2%	92.5%
2012	336,874,865	341,366,670	321,688,919	95.5%	94.2%
2013	376,667,610	380,417,306	368,426,348	97.8%	96.8%
2014	387,823,989	391,121,468	384,265,892	99.1%	98.2%
2015*	455,682,592	458,779,702	- -	- -	- -

* *The amounts indicated for June 30, 2015 will be adjusted at the end of the year based on actual covered payroll. These amounts are before adjustments to phase-in over two years the contribution rate impact of new assumptions adopted for the July 1, 2014 valuation.*

EXHIBIT III

Supplementary Information Required by GASB 27 – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
07/01/2005	$6,331,047,528	$6,763,079,839	$432,032,311	93.61%	$616,270,095	70.10%
07/01/2006	6,447,763,436	7,046,571,241	598,807,805	91.50%	635,728,131	94.19%
07/01/2007	6,864,084,006	7,467,285,349	603,201,343	91.92%	670,372,663	89.98%
07/01/2008	7,247,853,233	7,619,102,935	371,249,702	95.13%	708,731,840	52.38%
07/01/2009	7,248,721,252	8,057,060,950	808,339,698	89.97%	805,137,795	100.40%
07/01/2010	7,244,429,689	8,893,618,433	1,649,188,744	81.46%	856,089,559	192.64%
07/01/2011	7,465,183,643	9,297,204,318	1,832,020,675	80.29%	870,203,423	210.53%
07/01/2012	7,573,885,754	9,692,602,852	2,118,717,098	78.14%	886,539,366	238.99%
07/01/2013	7,958,487,587	10,094,867,871	2,136,380,284	78.84%	900,254,454	237.31%
07/01/2014	8,877,594,529	10,975,550,617	2,097,956,088	80.89%	900,126,274	233.07%

EXHIBIT IV

Supplementary Information Required by GASB 27

Valuation date	July 1, 2014
Actuarial cost method	Entry Age Cost Method
Amortization method	Level dollar amortization
Remaining amortization period	The July 1, 2004 Unfunded Actuarial Accrued Liability is amortized over a 15-year period commencing July 1, 2004. Any subsequent changes in Unfunded Actuarial Accrued Liability are amortized over separate 15-year periods effective with that valuation.
Asset valuation method	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market returns and the expected returns on a market value basis, and is recognized over a five-year period.
Actuarial assumptions:	
Investment rate of return	7.50%
Inflation rate	3.25%
Projected salary increases	4.75% to 10.00%*
Cost of living adjustments	For Tier 1, 3.00% (actual increases are contingent upon CPI increases with a 3.00% maximum). For Tier 2, 2.00% (actual increases are contingent upon CPI increases with a 2.00% maximum).
Plan membership:	
Retired members and beneficiaries receiving benefits	8,739
Terminated members entitled to, but not yet receiving benefits	1,484
Active members	8,960
Total	19,183

** Includes inflation at 3.25%, "across the board" increases of 0.75%, plus merit and promotional increases. See Exhibit VI for these increases.*

EXHIBIT V

Development of the Net Pension Obligation (NPO) and the Annual Pension Cost Pursuant to GASB 27

Plan Year Ended June 30	Employer Annual Required Contribution (a)	Employer Amount Contributed (b)	Interest on NPO (c)	ARC Adjustment (h) / (e) (d)	Amortization Factor (e)	Pension Cost (a) + (c) – (d) (f)	Change in NPO (f) – (b) (g)	NPO Balance NPO + (g) (h)
2006	$110,268,590	$101,556,257	-$13,022,666	-$19,405,096	8.8887	$116,651,020	$15,094,763	-$157,391,112
2007	134,504,482	129,154,539	-11,883,013	-17,706,897	8.8887	140,328,366	11,173,827	-146,217,285
2008	134,651,427	141,862,126	-11,039,390	-16,449,814	8.8887	140,061,851	-1,800,275	-148,017,560
2009	141,291,588	145,941,275	-11,175,312	-16,652,329	8.8887	146,768,605	827,330	-147,190,230
2010	200,578,728	201,034,807	-11,112,848	-16,559,253	8.8887	206,025,133	4,990,326	-142,199,904
2011	304,431,910	286,699,384	-10,409,323	-15,772,125	9.0159	309,794,712	23,095,328	-119,104,576
2012	336,874,865	321,688,919	-8,718,698	-13,210,503	9.0159	341,366,670	19,677,751	-99,426,825
2013	376,667,610	368,426,348	-7,278,246	-11,027,942	9.0159	380,417,306	11,990,958	-87,435,867
2014	387,823,989	384,265,892	-6,400,484	-9,697,963	9.0159	391,121,468	6,855,576	-80,580,291
2015	455,682,592*	455,682,592*	-5,713,138	-8,810,248	9.1462	458,779,702	3,097,110	-77,483,181

* *The amount indicated for June 30, 2015 assumes the actual employer contribution for the year is equal to the employer annual required contribution. These amounts are before adjustments to phase-in over two years the contribution rate impact of new assumptions adopted for the July 1, 2014 valuation.*

EXHIBIT VI

Actuarial Assumptions and Methods

Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 2 members.

Demographic Assumptions:

Mortality Rates:

After Service Retirement and Pre-retirement: RP-2000 Combined Healthy Mortality Table with ages set back one year, projected to 2030 with Scale AA.

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

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

Termination Rates Before Retirement:

	Rate (%)			
	Mortality*		Disability	
Age	Male	Female	Male	Female
25	0.028	0.013	0.006	0.000
30	0.036	0.018	0.012	0.006
35	0.060	0.031	0.012	0.036
40	0.080	0.041	0.018	0.072
45	0.094	0.063	0.030	0.102
50	0.116	0.093	0.054	0.138
55	0.180	0.191	0.126	0.168
60	0.367	0.382	0.240	0.000
65	0.739	0.742	0.000	0.000

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

Withdrawal Rates:

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

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

Retirement Rates:

	Rate (%)			
	Tier 1		Tier 2	
Age	Under 30 Years of Service	30 or More Years of Service	Under 30 Years of Service	30 or More Years of Service
55	5.0%	25.0%	0.0%	25.0%
56	3.0	18.0	0.0	12.5
57	3.0	15.0	0.0	10.0
58	3.0	15.0	0.0	10.0
59	3.0	15.0	0.0	10.0
60	5.0	20.0	5.0	17.5
61	6.0	15.0	2.5	5.0
62	6.0	15.0	0.0	5.0
63	6.0	25.0	20.0	25.0
64	7.0	20.0	15.0	20.0
65	12.0	25.0	15.0	25.0
66	12.0	25.0	15.0	25.0
67	12.0	25.0	15.0	25.0
68	12.0	25.0	15.0	25.0
69	15.0	25.0	15.0	25.0
70	30.0	30.0	100.0	100.0
71	30.0	30.0	100.0	100.0
72	30.0	30.0	100.0	100.0
73	30.0	30.0	100.0	100.0
74	30.0	30.0	100.0	100.0
75	100.0	100.0	100.0	100.0

Benefit for Inactive Vested Members:	For Tier 1, inactive vested members are assumed to retire at age 60 with a Money Purchase Annuity. Members receiving Permanent Total Disability benefits are assumed to retire at the earlier of age 60 or age 55 with 30 years of service. For Tier 2, inactive vested members are assumed to retire at age 63.
Definition of Active Members:	First day of biweekly payroll following employment for new department employees or immediately following transfer from other city department.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Data Adjustments:	Data as of March 31 has been adjusted to June 30 by adding three months of age and, for active employees, three months of service. Contribution account balances were also increased by three months of interest. For members in pay status, we have increased their benefits by the assumed July 1 COLA.
Percent Married/Domestic Partner:	85% of male members and 60% of female members are assumed to have an eligible spouse or domestic partner at pre-retirement death or retirement. The assumption is applied also for current retirees retired before April 1, 2012 with Options A, B, C, or F since they are missing this data. Spousal gender is assumed to be opposite that of the member.
Age of Spouse:	Females are 3 years younger than their spouses.
Future Benefit Accruals:	1.0 year of service per year.
Other Government Service:	Tier 1 members are assumed to purchase an additional 0.15 years of service per year. Tier 2 members are assumed to purchase an additional 0.03 years of service per year.

<u>Economic Assumptions:</u>

Consumer Price Index:	Increase of 3.25% per year; benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% for Tier 2.
Employee Contribution, Additional Annuity and Matching Account Crediting Rate:	7.75%, based on Plan provisions.
Net Investment Return:	7.50%, net of investment expenses.

Salary Increases:

Annual Rate of Compensation Increase

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

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

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

Actuarial Methods:

Actuarial Value of Assets: 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. As directed by the Retirement Office, the actuarial value of assets may be reduced by an amount classified as a non-valuation reserve.

Actuarial Cost Method:	Entry Age Normal 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, with Normal Cost determined as if the current benefit accrual rate had always been in effect ("replacement life").
Amortization Policy:	The July 1, 2004 Unfunded Actuarial Liability is amortized over a fifteen-year period commencing July 1, 2004. Any subsequent change 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 resulting from an unusual event, plan amendment or change in assumptions or methods.

Changes in Actuarial Assumptions:	Based on the June 30, 2012 Actuarial Experience Study, the following assumptions have been changed. Previously, these assumptions were as follows:
<u>Demographic Assumptions:</u>	
Mortality Rates:	
After Service Retirement and Pre-retirement:	RP-2000 Combined Healthy Mortality Table with ages set back two years for males and one year for females.
After Disability Retirement	RP-2000 Combined Healthy Mortality Table with ages set back two years for males and one year for females.

Changes in Actuarial Assumptions (continued):

Termination Rates before Retirement:

	Rate (%)			
	Mortality*		Total Withdrawal**	
Age	Male	Female	Male	Female
25	0.037	0.020	6.550	9.200
30	0.039	0.025	4.350	7.250
35	0.063	0.044	3.060	5.550
40	0.096	0.065	2.180	4.150
45	0.130	0.103	1.660	3.150
50	0.186	0.155	1.260	2.450
55	0.292	0.242	0.980	2.100
60	0.527	0.444	0.720	1.100
65	1.001	0.862	0.420	0.350

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

** *No withdrawal is assumed after a member is first eligible to retire. Ordinary withdrawal members are assumed to receive their account balance at termination. Vested termination members are assumed to receive a deferred retirement benefit. 45% of terminations are assumed to be ordinary withdrawals, with the remaining being vested terminations.*

Changes in Actuarial Assumptions (continued):

Retirement Rates:

	Tier 1	
Age	**Under 30 Years of Service**	**Over 30 Years of Service**
50	0.00%	0.00%
51	0.00	0.00
52	0.00	0.00
53	0.00	0.00
54	0.00	0.00
55	4.00	25.00
56	3.00	15.00
57	3.00	12.50
58	3.00	12.50
59	4.00	12.50
60	5.00	20.00
61	5.00	10.00
62	5.00	10.00
63	5.00	25.00
64	5.00	20.00
65	15.00	25.00
66	15.00	25.00
67	15.00	25.00
68	15.00	25.00
69	15.00	25.00
70	100.00	100.00

Percent Married/Domestic Partner: 85% of male members and 60% of female members are assumed to be married at pre-retirement death or retirement. Current retirees who retired before April 1, 2012, with Options A, B, C, or F are missing this data and are all assumed to have a spouse. Spousal gender is assumed to be opposite that of the member.

Changes in Actuarial Assumptions (continued):

Economic Assumptions:

Consumer Price Index: Increase of 3.50% per year; benefit increases due to CPI subject to 3.00% maximum.

Net Investment Return: 7.75%, net of administration and investment expenses.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.50% per year, plus "across the board" salary increases of 0.75% per year, plus the following merit and promotional increases.

Years of Service	Increase
0	6.25%
1	5.25%
2	4.75%
3	3.50%
4	2.00%
5 & Over	1.10%

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

EXHIBIT VII
Summary of Plan Provisions

This exhibit summarizes the major provisions of the Retirement Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Census Date:	March 31
Membership Eligibility:	
Tier 1	All members hired before January 1, 2014.
Tier 2	All members hired on or after January 1, 2014.
Formula Retirement Benefit:	
Tier 1	
Age & Service Requirement	Age 60 with 5 years of service; or Age 55 with 10 years of service in the last 12 years; or Any age with 30 years of service; or Receiving permanent total disability benefits from the Plan. Note: To be eligible, the employee must have worked or been paid disability four of the last five years immediately preceding eligibility to retire, or while eligible to retire.
Monthly Amount	The greater of 2.1% of the Monthly Salary Base or $9.50 per year of service. For those age 55 or older with 30 or more years of service the factor is 2.3% of the Monthly Salary Base. Benefits are limited to 100% of Monthly Salary Base.
Monthly Salary Base	Equivalent of monthly average salary of highest successive 26 biweekly payroll periods (one year).
Cost of Living Benefit	Based on CPI subject to a maximum of 3% per year.

<u>*Tier 2*</u>	
Age & Service Requirement	Age 60 with 10 years of service; or Age 55 with 30 years of service; or Any age with 30 years of service.
Monthly Amount	2.0% at age 55 with 30 years of service; or 2.1% at age 63 with 30 years of service; or 2.0% at age 63 with 10 years of service; or 1.5% at age 60 with 10 years of service. Benefits are limited to 80% of Monthly Salary Base.
Monthly Salary Base	Equivalent of monthly average salary of highest successive 78 biweekly payroll periods (three years).
Cost of Living Benefit	Based on CPI subject to a maximum of 2% per year.
Money Purchase Annuity:	
<u>*Tier 1*</u>	A monthly lifetime benefit equal in value to the employee normal contribution account plus Department matching contribution (current service contribution) account at retirement date. Does not include cost-of-living adjustments and death after retirement continuance features.
<u>*Tier 2*</u>	Same as Tier 1 (except no Department matching contribution).
Minimum Benefit:	If the money purchase annuity amount exceeds the monthly amount of the formula retirement benefit and the retiree meets the eligibility requirements for the formula retirement benefit, the amount of the money purchase annuity is paid and the cost-of-living and death after retirement continuance features of the formula retirement benefit are also paid.

Early Retirement Reduction Factors:

Tier 1

The early retirement factor is determined by the attained age on the effective date of retirement. Every three months of attained age will affect the factor.

Attained Age at Actual Retirement	Exact Age	+3 Months	+6 Months	+9 Months
48	.7150	.7225	.7300	.7375
49	.7450	.7525	.7600	.7675
50	.7750	.7825	.7900	.7975
51	.8050	.8125	.8200	.8275
52	.8350	.8425	.8500	.8575
53	.8650	.8725	.8800	.8875
54	.8950	.9025	.9100	.9175
55	.9250	.92875	.9325	.93625
56	.9400	.94375	.9475	.95125
57	.9550	.95875	.9625	.96625
58	.9700	.97375	.9775	.98125
59	.9850	.98875	.9925	.99625
60 & Over	1.0000			

The factor is 1.0000 for those retiring at age 55 or later with at least 30 years of service.

Tier 2

Same as Tier 1 with the exception that only the factors below age 55 are used. These are applied to the age 55 benefit for members who retire before age 55 with 30 or more years of service.

Member Normal Contributions:

Tier 1

If an employee became a plan member after May 31, 1984, the member normal contribution rate is 6% of pay.

If an employee became a plan member before June 1, 1984 or transferred from CERS with an entry age contribution rate, sample rates by entry age are as follows:

Entry Age	Rate
20	2.601%
25	3.102%
30	3.611%
35	4.161%
40	4.742%
45	5.381%
50	6.042%
55	6.762%
59	7.332%

Tier 2

Normal contribution rate of 10% of pay.

Department Current Service Contributions:

Tier 1

The Department of Water and Power makes actuarially based contributions that are a minimum of 110% of employee contributions.

Tier 2

Same as Tier 1, except that the minimum contribution equal to 110% of employee contributions is not required.

Disability:

Tier 1

Disability benefits are paid from the Disability Fund. However, if a member is receiving permanent and total disability benefits, the member may elect to retire. Other than a nominal amount, no service credit during disability is earned for the Formula benefit; however, credit is earned during disability toward the $9.50 minimum formula.

Tier 2

Same as Tier 1 (except no $9.50 minimum formula).

Deferred Withdrawal Retirement Benefit (Vested):

Tier 1

Age & Service Requirement	Age 60 with one year of continuous membership; or Age 55 with 10 years of contributing membership in the 12 years prior to separation from service.
Amount	Value of employee normal contribution account plus Department matching contribution (called current service contribution) account at retirement date. Does not include cost-of-living and death after retirement continuance features of the formula retirement benefit.

Tier 2

Age & Service Requirement	Not applicable.
Amount	Not applicable.

Deferred/Vested Right Retirement Benefit:

Tier 1

Age & Service Requirement	Not applicable.
Amount	Not applicable.

Tier 2

Age & Service Requirement	Any age with 15 years of service credit.
Amount	Formula Retirement Benefit at age 60 or later. Does not include cost-of-living and death after retirement continuance features of the formula retirement benefit.

Death Before Retirement:

Tier 1 and Tier 2

Age and Service Requirement	None
Amount	Refund of member contributions with interest.

Age, Service and Type of Death Requirement	Any death of a member who is eligible for service retirement, but who has not yet retired or attained 25 years of service In lieu of the refund of member contributions with interest, the member's spouse or domestic partner may elect an immediate lifetime monthly allowance. The monthly allowance payable to the surviving spouse or domestic partner is the amount the spouse or domestic partner would have received had the member elected a full joint and survivor allowance.
Age, Service and Type of Death Requirement	Duty death with 10 years of service, but prior to service retirement eligibility or attainment of 25 years of service.
Amount	In lieu of the refund of member contributions with interest, the member's spouse or domestic partner may elect either: (a) A deferred lifetime monthly allowance commencing when the member would have been eligible for a service retirement or attained 25 years of service; or (b) An immediate lifetime monthly allowance calculated with up to five years added to the member's age or service. This option is only available if the member has attained age 50 or attained 20 years of service. The monthly allowance payable is the amount the spouse or domestic partner would have received had the member elected a full joint and survivor allowance.
Death After Retirement:	
Tier 1 and Tier 2	50% of retiree's unmodified allowance continued to eligible spouse or domestic partner (reduced if difference in ages is greater than five years).
Withdrawal of Contributions Benefit (Ordinary Withdrawal):	
Tier 1 and Tier 2	Refund of employee contributions with interest.

Post-retirement Cost-of-Living Benefits:	
Tier 1	Future changes based on the Consumer Price Index to a maximum of 3% per year, excess "banked."
Tier 2	Future changes based on the Consumer Price Index to a maximum of 2% per year. Member may purchase additional 1% COLA protection at full actuarial cost.
Changes in Plan Provisions:	A new Tier 2 was established for employees hired on or after January 1, 2014.

NOTE: *The summary of major Plan provisions is designed to outline principle Plan benefits as interpreted for purposes of the actuarial valuation. If the Retirement Office should find the Plan summary not in accordance with the actual provisions, the Retirement Office should alert the actuary so they can both be sure the proper provisions are valued.*