Segal Consulting

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

Governmental Accounting Standards (GAS) 67
Actuarial Valuation as of June 30, 2014

This report has been prepared at the request of the Board of Administration to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Administration and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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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, CA 90012

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2014. It contains various information that will need to be disclosed in order to comply with GAS 67.

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

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

Sincerely,

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

By:

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

EK/bqb

SECTION 1
VALUATION SUMMARY

SECTION 2
GASB 67 INFORMATION

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards (GAS) 67 as of June 30, 2014. This valuation is 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:

- 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. Statement 67 is effective with the fiscal year ending June 30, 2014 for Plan reporting and Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. The information contained in this valuation is intended to be used (along with other information) in order to comply with Statement 67.
- It is important to note that the new GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as WPERP uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as WPERP's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.

- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL decreased from $1.79 billion as of June 30, 2013 to $1.27 billion as of June 30, 2014 due to the approximately 17% return on the market value of assets during 2013/2014 that exceeded the assumed return of 7.75%. Changes in these values during the last two fiscal years ending June 30, 2013 and June 30, 2014 can be found in Exhibit 3. In particular, the June 30, 2014 NPL was measured using the new actuarial assumptions and the NPL would have been lower by about $525 million if measured using the old assumptions.
- The NPLs measured as of June 30, 2014 and 2013 have been determined from the actuarial valuations as of July 1, 2014 and July 1, 2013, respectively.
- The discount rates used to determine the TPL and NPL as of June 30, 2014 and 2013 were 7.50% and 7.75%, respectively, following the same assumptions used by the Plan in the pension funding valuations as of July 1, 2014 and July 1, 2013. Details on the derivation of the discount rate can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.

Summary of Key Valuation Results

	2014	2013
Disclosure elements for fiscal year ending June 30:		
Service cost[(1)]	$193,661,118	$189,950,104
Total pension liability	10,975,550,617	10,094,867,871
Plan fiduciary net position[(2)]	9,710,178,432	8,304,011,429
Net pension liability	1,265,372,185	1,790,856,442
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$387,823,989	$376,667,610
Actual contributions	384,265,892	368,426,348
Contribution deficiency (excess)	3,558,097	8,241,262
Demographic data for plan year ending June 30:		
Number of retired members and beneficiaries	8,739	8,642
Number of vested terminated members[(3)]	1,484	1,555
Number of active members	8,960	8,913
Key assumptions as of June 30:		
Investment rate of return	7.50%	7.75%
Inflation rate	3.25%	3.50%
Projected salary increases[(4)]	4.75% to 10.00%	5.35% to 10.50%

(1) The service cost is always based on the previous year's assumptions, meaning both values are based on those assumptions shown as of June 30, 2013.
(2) Based on preliminary unaudited financial statements.
(3) Includes terminated members due a refund of member contributions and members receiving PTD benefits.
(4) Includes inflation at 3.25% (3.50% for the June 30, 2013 valuation) plus real across-the-board salary increases of 0.75% plus merit and promotional increases.

EXHIBIT 1

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

Plan Description

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

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

Plan membership. At June 30, 2014, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	8,739
Vested terminated members entitled to, but not yet receiving benefits[(1)]	1,484
Active members	8,960
Total	19,183

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

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

Tier 1 members are eligible to retire once they attain the age of 60 with 5 or more years of service or at age 55 with 10 or more years of service credit acquired in the last 12 years prior to retirement. A Tier 1 member with 30 years of service is eligible to retire regardless of age. Tier 2 members are eligible to retire once they attain the age of 60 with 10 or more years of service or at any age with 30 years of service. For both tiers, combined years of service between WPERP and LACERS is used to determine retirement eligibility and at least 5 years must be actual employment at DWP or City (not purchased). For both tiers, members receiving Permanent Total Disability benefits may retire regardless of age. For Tier 1, to be eligible for a Formula Pension, the employee must have worked or been paid disability four of the last five years immediately preceding eligibility to retire, or while eligible to retire.

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

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

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

- 2.0% at age 55 with 30 years of service credit
- 1.5% at age 60 with 10 years of service credit
- 2.0% at age 63 with 10 years of service credit
- 2.1% at age 63 with 30 years of service credit

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

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

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

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

WPERP provides annual cost-of-living adjustments (COLAs) to retirees who retired under the Formula Pension. The cost-of-living adjustments are made each July 1 based on the percentage change in the average of the Consumer Price Index for the Los Angeles-Riverside-Orange County Area--All Items For All Urban Consumers. It is capped at 3.0% for Tier 1 and 2.0% for Tier 2. Tier 2 members may purchase additional 1% COLA protection at full actuarial cost.

The LADWP contributes to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Administration. Employer contribution rates are adopted annually based upon recommendations received from WPERP's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2014 (based on the July 1, 2013 valuation) was 47.30% of compensation.

All members are required to make contributions to WPERP regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2014 (based on the July 1, 2013 valuation) was 6.66% of compensation. Most Tier 1 members contribute at 6% of compensation and all Tier 2 members contribute at 10% of compensation.

EXHIBIT 2

Net Pension Liability

The components of the net pension liability are as follows:

	June 30, 2014	June 30, 2013
Total pension liability	$10,975,550,617	$10,094,867,871
Plan fiduciary net position	-9,710,178,432	-8,304,011,429
Net pension liability	1,265,372,185	$1,790,856,442
Plan fiduciary net position as a percentage of the total pension liability	88.47%	82.26%

The net pension liability was measured as of June 30, 2014 and 2013 and determined based upon the Plan fiduciary net position (plan assets) and total pension liability from actuarial valuations as of July 1, 2014 and 2013, respectively.

Actuarial assumptions. The total pension liabilities as of June 30, 2014 and June 30, 2013 were determined by actuarial valuations as of July 1, 2014 and July 1, 2013, respectively. The actuarial assumptions used in the June 30, 2014 valuation were based on the results of an experience study for the period from July 1, 2009 through June 30, 2012. They are the same as the assumptions used in the July 1, 2014 funding actuarial valuation for the WPERP. The assumptions are outlined on page 8 of this report. In particular, the following assumptions were applied to all periods included in the measurement:

Inflation	3.25%
Salary increases	4.75% to 10.00%, vary by service, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges 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 and by adding expected inflation. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic. Equity	33%	6.13%
Developed International Equity	21%	7.00%
Fixed Income	24%	0.77%
Real Estate	5%	4.90%
Real Return	6%	2.85%
Private Equity	5%	9.00%
Covered Calls	5%	4.88%
Cash and Cash Equivalents	1%	0.00%
Total	100.00%	

Discount rate: The discount rates used to measure the total pension liability were 7.50% and 7.75% as of June 30, 2014 and June 30, 2013, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only 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 pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of both June 30, 2014 and June 30, 2013.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the WPERP as of June 30, 2014, calculated using the discount rate of 7.50%, as well as what the WPERP net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net pension liability as of June 30, 2014	$2,676,361,870	$1,265,372,185	$80,488,925

EXHIBIT 3

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

	2014	2013
Total pension liability		
Service cost	$193,661,118	$189,950,104
Interest	779,396,615	748,904,919
Change of benefit terms	0	0
Differences between expected and actual experience	-154,221,968	-98,062,638
Changes of assumptions	525,443,921	0
Benefit payments, including refunds of member contributions	-463,596,940	-438,527,366
Net change in total pension liability	$880,682,746	$402,265,019
Total pension liability – beginning	10,094,867,871	9,692,602,852
Total pension liability – ending (a)	$10,975,550,617	$10,094,867,871
Plan fiduciary net position		
Contributions – employer (including those for administrative expenses)	$389,138,324	$372,819,194
Contributions – employee	72,299,526	69,633,449
Net investment income	1,412,547,327	919,679,147
Benefit payments, including refunds of member contributions	-463,596,940	-438,527,366
Administrative expense	-4,221,234	-3,736,871
Other	0	0
Net change in plan fiduciary net position	$1,406,167,003	$919,867,553
Plan fiduciary net position – beginning	8,304,011,429	7,384,143,876
Plan fiduciary net position – ending (b)	$9,710,178,432	$8,304,011,429
Net pension liability – ending (a) – (b)	$1,265,372,185	$1,790,856,442
Plan fiduciary net position as a percentage of the total pension liability	88.47%	82.26%
Covered employee payroll	$819,923,866	$817,421,028
Plan net pension liability as percentage of covered employee payroll	154.33%	219.09%

Notes to Schedule:

Benefit changes: All members hired on or after January 1, 2014 enter Tier 2.

EXHIBIT 4

Schedule of Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions*	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2005	$80,784,677	$75,490,143	$5,294,534	$554,839,816	13.61%
2006	110,268,590	101,556,257	8,712,333	574,315,572	17.68%
2007	134,504,482	129,154,539	5,349,943	604,514,525	21.37%
2008	134,651,427	141,862,126	-7,210,699	623,674,973	22.75%
2009	141,291,588	145,941,275	-4,649,687	696,704,083	20.95%
2010	200,578,728	201,034,807	-456,079	767,912,436	26.18%
2011	304,431,910	286,699,384	17,732,526	791,760,493	36.21%
2012	336,874,865	321,688,919	15,185,946	805,607,436	39.93%
2013	376,667,610	368,426,348	8,241,262	817,421,028	45.07%
2014	387,823,989	384,265,892	3,558,097	819,923,866	46.87%

** Excludes employer contributions towards administrative expenses.*

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" rates:	
Valuation date	Actuarially determined contribution rates are calculated as of June 30, one year prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level dollar amortization
Remaining amortization period	The July 1, 2004 Unfunded Actuarial Accrued Liability is amortized over a 15-year period commencing July 1, 2004. Any subsequent changes in Unfunded Actuarial Accrued Liability are amortized over separate 15-year periods effective with that valuation.
Asset valuation method	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market returns and the expected returns on a market value basis, and is recognized over a five-year period. As directed by the Retirement Office, the actuarial valuation of assets may be reduced by an amount classified as a non-valuation reserve.
Other information:	All members hired on or after January 1, 2014 enter Tier 2.

	June 30, 2013	June 30, 2014
Actuarial assumptions:		
Investment rate of return	7.75%	7.50%
Inflation rate	3.50%	3.25%
Real across-the-board salary increase	0.75%	0.75%
Projected salary increases*	5.35% to 10.50%	4.75% to 10.00%
Cost of living adjustments	3.00% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2)	3.00% (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1, 2.00% maximum for Tier 2)
Mortality	Healthy: RP-2000 Combined Healthy Mortality Table set back two years for males and one year for females	Healthy: RP-2000 Combined Healthy Mortality Table with ages set back one year projected to 2030 with Scale AA
Other assumptions	Same as those used in the July 1, 2013 funding actuarial valuation	Same as those used in the July 1, 2014 funding actuarial valuation

* *Includes inflation at 3.25% as of June 30, 2014 and 3.50% as of June 30, 2013 plus real across-the-board salary increase of 0.75% plus merit and promotional increases.*

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2014 ($ in millions)

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)
2014	$9,710	$502	$505	$728	$10,436
2015	10,436	467	535	780	11,149
2016	11,149	449	570	832	11,860
2017	11,860	419	609	882	12,552
2018	12,552	396	651	932	13,229
2019	13,229	373	696	980	13,885
2020	13,885	337	744	1,026	14,504
2021	14,504	311	793	1,070	15,092
2022	15,092	302	843	1,112	15,663
2023	15,663	319	891	1,153	16,244
2039	18,564	55	1,566	1,336	18,388
2040	18,388	47	1,589	1,321	18,167
2041	18,167	41	1,606	1,304	17,905
2042	17,905	35	1,617	1,284	17,607
2043	17,607	29	1,622	1,261	17,274
2088	31,258	0	24	2,343	33,577
2089	33,577	0	19	2,518	36,076
2090	36,076	0	14	2,705	38,767
2091	38,767	0	11	2,907	41,664
2092	41,664	0	8	3,124	44,780
2116	236,219	0	0 *	17,716	253,935
2117	253,935				
2117 Discounted Value:	148 **				

* Less than $1 M, when rounded.

** $253,935 million when discounted with interest at the rate of 7.50% per annum has a value of $148 M as of June 30, 2014.

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2014 - continued

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Years 2024-2038, 2044-2087, and 2093-2115 have been omitted from this table.

(3) Column (a): Except for the "discounted value" shown for 2117, 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 rates applied to closed group projected payroll (based on covered active members as of June 30, 2014), plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.

(5) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2014. The projected benefit payments reflect the cost of living increase assumptions used in the July 1, 2014 valuation report. The projected benefit payments are assumed to occur halfway through the year, on average.

(6) Column (d): Projected investment earnings are based on the assumed investment rate of return of 7.50% per annum.

(7) Throughout the projection, administrative expenses are not shown as they are expected to be offset by additional employer contributions above those shown in this projection.

(8) As illustrated in this Exhibit, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.50% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2014 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.