



**California Public Employees'  
Retirement System  
Judges' Retirement System II**

**Independent Review of the  
Actuarial Valuation  
as of June 30, 2013**

**Produced by Cheiron  
October 2014**

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## LETTER OF TRANSMITTAL

October 27, 2014

Ms. Margaret Junker, Chief  
California Public Employees' Retirement System  
Office of Audit Services  
P. O. Box 942701  
Sacramento, CA 94229-2701

Dear Ms. Junker:

The purpose of this report is to provide Independent Review of the Actuarial Valuation for the Judges' Retirement System II as of June 30, 2013. This report was prepared exclusively for California Public Employees' Retirement System for the purpose described herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

In preparing our report, we relied on information (some oral and some written) supplied by California Public Employees' Retirement System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements 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.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,  
Cheiron



Robert T. McCrory, FSA, FCA, EA, MAAA  
Principal Consulting Actuary



**Independent Review of The Actuarial Valuation of the  
Judges' Retirement System II as of June 30, 2013**

## **Overview**

Cheiron has completed an independent review of the Actuarial Valuation of the Judges' Retirement System II (JRS II, the System) as of June 30, 2013. Overall, we were able to certify that the liabilities and costs computed in this valuation are reasonable and were computed in accordance with generally accepted actuarial principles and practices.

The supporting calculations and the above issues are discussed in more detail below.

## **Background**

Judges Retirement System II provides pensions and ancillary benefits to California state judges who were elected or appointed on or after November 9, 1994. Judges elected or appointed prior to that date are covered under Judges Retirement System I (JRS I). JRS I and JRS II are separate retirement plans with separate memberships, separate asset pools, and no financial interrelationship.

A judge who has reached 65 and is credited with 20 or more years of service under the System, or who has reached age 70 with five or more years, will be awarded either a lifetime pension or will be paid the balance of his or her monetary credits. The retiring judge makes the choice. The pension benefit is an annuity for life of 3.75% of highest 12 months' pay per year of service, with a maximum of 75% of pay. The monetary credit balance is the accumulation of 8% of pay in employee contributions and 10% of pay designated as employer contributions from date of election or appointment. Death, disability, and termination benefits are also paid from the System.

## **Methodology**

The review process involves three steps:

- Review of Methods and Assumptions

The actuarial assumptions and methods employed in the JRS II Valuation were reviewed by Cheiron in order to establish that they meet acceptable standards of actuarial practice.

- Independent Valuation

In order to verify the correctness of calculations in the JRS II Valuation, Cheiron conducted an independent actuarial valuation using its own actuarial models. This independent valuation determines whether actuarial assumptions and methods are applied properly and yield the reported results.

In preparing our independent valuations, we relied on member and asset data supplied by CalPERS staff. As is usual in actuarial valuations, this data was neither audited nor independently verified.

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- **Reconciliation of Results**

In the event that the figures computed by Cheiron fall outside of the established tolerance versus those computed by CalPERS' staff, reconciliation is required.

This reconciliation proceeds in four steps:

1. Establishing that the same member data has been used by Cheiron and by staff;
2. Researching methodological differences between the Cheiron and staff approaches to computing liabilities and costs;
3. Comparing individual test life results to uncover subtle differences in approach that may result in material differences in liabilities and costs.
4. Discuss with CalPERS Staff the nature and magnitude of the discrepancy and agree on the cause and remedy.

## **Review of Methods and Assumptions**

The actuarial methods and assumptions used in the JRS II Valuation are well within acceptable standards of actuarial practice.

Annual valuations of JRS II are completed using the Entry Age Normal Funding Method. The valuation date is June 30, 2013. Contributions are determined for the July 1, 2014 through June 30, 2015 fiscal year.

Actuarial assumptions used to compute System liabilities and normal costs include:

- A 7.00% annual rate of investment return, net of all expenses;
- Annual salary increases of 3.00%;
- Annual inflation of 2.75%;
- Retirement between the ages of 65 and 70 after five years of service;
- Termination rates from 0.225% to 0.9% per year, depending on age and service; and
- Active and retired mortality rates developed based on actual CalPERS experience during the period from 1997 to 2011.

More detailed information concerning the valuation assumptions can be found in the 2013 CalPERS Experience Study Report. Cheiron also performed a review of this Experience Study, and evaluated demographic assumptions as part of that review.

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## Independent Valuation

The JRS II Actuarial Valuation was performed by CalPERS staff using the Actuarial Valuation System (AVS). Cheiron validated the calculations by creating an *independent* actuarial model to develop the valuation results. The only data common to the models was the participant data; the Cheiron model was developed separately, without reference to the one used by staff for the Valuation.

As established in our Proposal of Services, we expect the values of comparable items derived from the two models to differ by less than the percentages shown in the following table.

**Table 1: Independent Valuation Tolerances**

<b>Calculated Item</b>	<b>Acceptable Tolerance</b>
Number of members - active, retired, inactive	0%
Annual payroll and member contributions	0%
Present value of pay; present value of member contributions	1%
Present value of benefit obligations	5%
Annual normal cost, employer contribution rates	5%

These tolerances are sufficiently stringent to detect material differences between the models. Differences outside of the Acceptable Tolerances listed above would not necessarily cause a failure to certify the valuation, but would result in additional scrutiny and reconciliation to determine the reasons.

## Independent Actuarial Valuation Results

Tables 2 and 3 below show the principal results of the independent valuations.

In Table 2, we see that the liabilities and costs computed by Cheiron are very close to those computed by CalPERS staff.

In Table 3, we see that there are some minor and immaterial differences in the JRS II member data. In the JRS II valuation prepared by CalPERS staff, it is noted that the member data excludes one beneficiary receiving a 36-month pre-retirement death benefit. In addition, there are three inactive members entitled to lump sum payments and two members in pay status who are due a short period of annuity payments who were not included in the data provided to Cheiron. These data exclusions are within the scope of normal actuarial practice.

From the results shown in Tables 2 and 3, we can verify that the liabilities and costs computed in the CalPERS JRS II valuation are reasonable and were computed in accordance with generally accepted actuarial principles and practices.

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**Table 2: Independent Valuation Results**

	<b>CalPERS JRS II Valuation</b>	<b>Cheiron Independent Valuation</b>	<b>Cheiron to PERS Difference</b>	<b>Within Tolerance</b>
1. Present Value of Benefit for Active Members	\$ 1,360,932,398	\$ 1,356,590,995	-0.32%	Yes
2. Present Value of Benefits for Inactive Members				
Deferred Vested & 1	304,312	304,312	0.00%	Yes
Receiving Benefits	58,088,395	59,616,480	2.63%	Yes
Total	\$ 58,392,707	\$ 59,920,792	2.62%	Yes
3. Total Present Value of Benefits	\$ 1,419,325,105	\$ 1,416,511,787	-0.20%	Yes
4. Actuarial Accrued Liability for Active Members	778,804,871	775,370,235	-0.44%	Yes
5. Total Actuarial Accrued Liability (4) + (2)	\$ 837,197,578	\$ 835,291,027	-0.23%	Yes
6. Assets	778,980,041	778,980,041	0.00%	Yes
7. Unfunded Actuarial Accrued Liability (UAAL) [(5) - (6)]	\$ 58,217,537	\$ 56,310,986	-3.27%	N/A
8. Amortization of UAAL	\$ 2,859,916	\$ 2,749,986	-3.84%	N/A
9. Total Normal Cost	\$ 81,030,096	\$ 81,177,432	0.18%	Yes
10. Employee Contribution	\$ 20,697,165	\$ 19,942,048	-3.65%	Yes
11. Employer Normal Cost	\$ 60,332,931	\$ 61,235,385	1.50%	Yes
12. Actuarial Required Contribution (ARC) [(8) + (9)] * 1.0425	\$ 63,192,847	\$ 63,985,371	1.25%	Yes

**Table 3: Demographic Comparison**

	<b>CalPERS JRS Valuation</b>	<b>Cheiron Independent Valuation</b>	<b>Cheiron to PERS Difference</b>	<b>Within Tolerance</b>
<b>Number of Members</b>				
Active	1352	1352	0.00%	Yes
Retired	52	50	-3.85%	No
Inactive	3	0	-100.00%	No
<b>Salaries and Contributions</b>				
Total Payroll	\$ 241,987,887	\$ 241,987,887	0.00%	Yes
Present value of Payroll	\$ 1,888,609,730	\$ 1,850,920,726	-2.00%	No