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July 21, 2016

Ms. Brenda Halpin, Director
State of Connecticut
Office of the State Comptroller
Retirement Services Division
55 Elm Street
Hartford, CT 06106

Dear Brenda:

Enclosed is the "Connecticut Probate Judges and Employees Retirement System Report of the Actuary on the Valuation Prepared as of December 31, 2015".

The valuation indicates that employer contributions at the rate of 7.72% of compensation are sufficient to support the benefits of the System. Please note that the Commission has adopted a revised funding policy for the fiscal year ending June 30, 2018, whereby, the actuarially determined employer contribution rate cannot be less than the employer normal cost rate.

Please let us know if there are any questions concerning the report.

Sincerely yours,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

JJG/EJK/KC

Enc.

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3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
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*The experience and dedication you deserve*

**CONNECTICUT PROBATE JUDGES
AND EMPLOYEES RETIREMENT SYSTEM**

**REPORT OF THE ACTUARY ON THE VALUATION
PREPARED AS OF DECEMBER 31, 2015**

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The experience and dedication you deserve

July 21, 2016

State of Connecticut
State Employees Retirement Commission
55 Elm Street
Hartford, CT 06106

Members of the Commission:

Connecticut General Statutes Title 45a, Chapter 801, Part III governs the operation of the Connecticut Probate Judges and Employees Retirement System. The actuary makes periodic valuations of the contingent assets and liabilities of the Retirement System at the direction of the Commission. We have submitted the report giving the results of the actuarial valuation of the Retirement System prepared as of December 31, 2015. The report indicates that actuarially determined employer contributions at the rate of 7.72% of compensation for the fiscal year ending June 30, 2017 are sufficient to support the benefits of the System.

In preparing the valuation, the actuary relied on data provided by the Comptroller's Office. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. Beginning with the fiscal year ending June 30, 2018, the Commission has adopted a revised funding policy, whereby, the actuarially determined employer contribution rate cannot be less than the employer normal cost rate.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Commission are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for funding purposes meet the parameters set for the disclosures presented in the financial section by Governmental Accounting Standards Board (GASB) Statement Nos. 25 and 27. The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the projected unit credit method. Gains and losses are reflected in the unfunded accrued liability which is being amortized as a level dollar amount within a 13-year period.

This is to certify that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

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Future actuarial results may differ significantly from the current results 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely yours,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

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**CONNECTICUT PROBATE JUDGES AND EMPLOYEES RETIREMENT SYSTEM**
**REPORT OF THE ACTUARY**
**ON THE VALUATION**
**PREPARED AS OF DECEMBER 31, 2015**

## SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below:

| Valuation Date | December 31, 2015 | December 31, 2013 |
|---|---|---|
| Number of active members | 371 | 346 |
| Annual compensation | $ 19,041,511 | $ 16,689,104 |
| Retired members and beneficiaries: | | |
| Number | 336 | 364 |
| Annual allowances | $ 4,739,254 | $ 4,805,711 |
| Deferred Vested Members: | | |
| Number | 28 | 21 |
| Annual allowances | $ 334,008 | $ 232,060 |
| Assets: | | |
| Market Value | $ 85,294,815 | $ 86,744,972 |
| Actuarial Value | 92,001,796 | 87,490,158 |
| Unfunded actuarial accrued liability | $ (6,149,851) | $ (4,873,023) |
| Amortization period (years) | 13 | 15 |
| Funded Ratio | 107.2% | 105.9% |
| **For Fiscal Year Ending** | **June 30, 2017** | **June 30, 2015** |
| Actuarially Determined Employer Contribution (ADEC): | | |
| Normal cost | $ 2,188,457 | $ 1,898,008 |
| Accrued liability | (720,454) | (527,142) |
| Total | $ 1,468,003 | $ 1,370,866 |
| Actuarially Determined Employer Contribution Rates: | | |
| Normal cost | 11.50% | 11.37% |
| Accrued liability | (3.78) | (3.16) |
| Total | 7.72% | 8.21% |

2. The results of the valuation are given in Schedule A.

3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section VII and the rates of contribution payable by employers are given in Section V.

4. Schedule B of this report presents the development of the actuarial value of assets. Schedule D details the actuarial assumptions and methods employed. Schedule F gives a summary of the benefit and contribution provisions of the plan.

5. The table on the following page provides a history of some pertinent figures.

**Connecticut Probate Judges and Employees Retirement System**

**Comparative Schedule**

| Valuation Date December 31 | Active Members | | | | Retired Lives | | | | Valuation Results ($ thousands) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Payroll ($ thousands) | Average Salary | % increase from previous valuation | Number | Active/ Retired Ratio | Annual Benefits ($ thousands) | Benefits as % of Payroll | Accrued Liability | Valuation Assets | UAAL |
| 2006* | 389 | $15,781 | $40,567 | 3.4% | 258 | 1.5 | 2,717 | 17.2 | N/A | N/A | N/A |
| 2007* | 409 | 16,915 | 41,357 | 1.9 | 277 | 1.5 | 2,979 | 17.6 | $60,631 | $86,325 | $(25,694) |
| 2008* | 418 | 17,683 | 42,305 | 2.3 | 283 | 1.5 | 3,137 | 17.7 | 59,437 | 78,213 | (18,776) |
| 2009 | 412 | 17,959 | 43,590 | 3.0 | 288 | 1.4 | 3,156 | 17.6 | 61,314 | 86,776 | (25,462) |
| 2011 | 330 | 15,404 | 46,679 | 7.1 | 342 | 1.0 | 4,417 | 28.7 | 73,127 | 85,154 | (12,027) |
| 2013 | 346 | 16,689 | 48,234 | 3.3 | 364 | 1.0 | 4,806 | 28.8 | 82,617 | 87,490 | (4,873) |
| 2015 | 371 | 19,042 | 51,325 | 6.4 | 336 | 1.0 | 4,739 | 24.9 | 85,852 | 92,002 | (6,150) |

*All amounts prior to 2009 reported by prior actuarial firm.

## SECTION II – MEMBERSHIP

Data regarding the membership of the System for use as a basis for the valuation were furnished by the Comptroller's office. The following tables summarize the membership of the Retirement System as of December 31, 2015 and December 31, 2013 upon which the valuation was based. Detailed tabulations of the data are given in Schedule G.

**Active Members as of December 31, 2015**

| Group | Number | Payroll | Group Averages Salary | Age | Service |
|---|---|---|---|---|---|
| Judges | 54 | $ 5,908,227 | $ 109,412 | 57.7 | 12.3 |
| Employees | 317 | 13,133,284 | 41,430 | 49.8 | 10.5 |
| Total | 371 | $ 19,041,511 | $ 51,325 | 50.9 | 10.8 |

Of the 371 active members, 161 are vested and 210 are non-vested.

**Active Members as of December 31, 2013**

| Group | Number | Payroll | Group Averages Salary | Age | Service |
|---|---|---|---|---|---|
| Judges | 52 | $ 5,449,451 | $ 104,797 | 57.9 | 14.4 |
| Employees | 294 | 11,239,653 | 38,230 | 49.8 | 10.4 |
| Total | 346 | $ 16,689,104 | $ 48,234 | 51.1 | 11.0 |

Of the 346 active members, 163 are vested and 183 are non-vested.

**Retired Lives as of December 31, 2015**

| Type of Benefit Payment | No. | Annual Benefits | Group Averages Benefit | Group Averages Age |
|---|---|---|---|---|
| Retirement | 301 | $ 4,453,047 | $ 14,794 | 74.7 |
| Survivor | 35 | 286,207 | 8,177 | 79.0 |
| Total | 336 | $ 4,739,254 | $ 14,105 | 75.1 |

This valuation also includes 28 deferred vested members with estimated annual benefits of $334,008 and 121 non-vested inactive members with employee contribution account balances totaling $241,710.

**Retired Lives as of December 31, 2013**

| Type of Benefit Payment | No. | Annual Benefits | Group Averages Benefit | Group Averages Age |
|---|---|---|---|---|
| Retirement | 327 | $ 4,521,976 | $ 13,829 | 73.7 |
| Survivor | 37 | 283,735 | 7,669 | 77.7 |
| Total | 364 | $ 4,805,711 | $ 13,203 | 74.1 |

This valuation also includes 21 deferred vested members with estimated annual benefits of $232,060 and 121 non-vested inactive members with employee contribution account balances totaling $241,710.

## SECTION III - ASSETS

1. As of December 31, 2015, the total market value of assets amounted to $85,294,815 as reported by the Comptroller's Office. This amount includes $4,435 of receivables as of the valuation date. The actuarial value of assets used for the current valuation was $92,001,796. Schedule B shows the development of the actuarial value of assets as of December 31, 2015.

2. Schedule C shows receipts and disbursements of the System for the two years preceding the valuation date and a reconciliation of the fund balances at market value.

## SECTION IV – COMMENTS ON VALUATION

1. Schedule A of this report outlines the results of the valuation of the Retirement System as of December 31, 2015. The valuation was prepared in accordance with the actuarial assumptions and methods set forth in Schedule D and the actuarial cost method which is described in Schedule E.

2. The valuation shows that the System has a total actuarial accrued liability of $85,851,945, of which $48,538,944 is for the benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits, and $37,313,001 is for the benefits expected to be payable on account of present active members, based on service to the valuation date. Against these liabilities, the System has total present assets for valuation purposes of $92,001,796 as of December 31, 2015. When this amount is deducted from the actuarial accrued liability of $85,851,945, there remains $(6,149,851) as the unfunded actuarial accrued liability. A negative unfunded accrued liability reflects an excess of actuarial value of assets over accrued liability.

3. The employer's contributions to the System consist of normal contributions and accrued liability contributions. The normal cost represents the ultimate cost of the benefits and the accrued liability contribution is an addition (reduction in case of an excess) due to the amortization of the unfunded accrued liability. The valuation indicates that annual employer normal contributions at the rate of 11.50% of active members' compensation are required to provide the currently accruing benefits of the System.

4. Accrued liability contributions of (3.78)% of payroll are to be made toward amortizing the unfunded accrued liability. Annual accrued liability credits at the rate of (3.78)% of payroll will amortize the negative unfunded accrued liability within 13 years from the valuation date.

## SECTION V – CONTRIBUTIONS PAYABLE BY EMPLOYER

The following table shows the amount and rate of contribution payable by the employer for the 2016/2017 and 2015/2016 fiscal years.

| | 2016 / 2017 | | 2015 / 2016 | |
|---|---|---|---|---|
| Contribution for | Contribution Amount | Contribution Rate | Contribution Amount | Contribution Rate |
| Normal Cost | | | | |
| Service retirement benefits | $2,349,439 | 12.34% | $2,117,733 | 12.23% |
| Disability benefits | 104,399 | 0.55% | 95,650 | 0.55% |
| Survivor benefits | 15,237 | 0.08% | 14,009 | 0.08% |
| Total | $2,469,075 | 12.97% | $2,227,393 | 12.86% |
| Less Member Contributions | 280,618 | 1.47% | 258,210 | 1.49% |
| Employer Normal Cost | $2,188,457 | 11.50% | $1,969,183 | 11.37% |
| Unfunded Actuarial Accrued Liabilities (13 and 14 year level dollar amortization) | $(720,454) | (3.78)% | $(511,997) | (2.96)% |
| Total | $1,468,003 | 7.72% | $1,457,186 | 8.41% |

The following table shows the estimated rates of contributions payable by the employer for the next two fiscal years following the valuation date. These results assume an 8.00% investment return on actuarial value of assets for the two years following the valuation date, and 3.75% annual growth in the compensation of active members.

| Contribution for* | 2017/2018 | | 2018/2019 | |
|---|---|---|---|---|
| | As % of Pay | $ | As % of Pay | $ |
| Employer Normal Cost | 11.49% | $2,270,524 | 11.49% | $2,355,669 |
| Unfunded Actuarial Accrued Liabilities | (2.98)% | $(589,550) | (1.83)% | $(375,891) |
| Total (not less than Normal Cost) | 11.49% | $2,270,524 | 11.49% | $2,355,669 |

* Beginning with the contribution requirement for the fiscal year ending June 30, 2018, the Commission has adopted a revised funding policy, whereby, the actuarially determined employer contribution rate cannot be less than the employer normal cost rate.

As can be seen in the table above, the employer contributions expressed as a percentage of payroll are expected to increase over the next two fiscal years due to the Commission's revised funding policy and the anticipation that the System remains above a 100% funded ratio. Of course, lower than expected investment returns could possibly alter this trend.

## SECTION VI – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS**
**AS OF DECEMBER 31, 2015 AND DECEMBER 31, 2013**

| GROUP | 2015 | 2013 |
|---|---|---|
| Retirees and beneficiaries currently receiving benefits | 336 | 364 |
| Terminated employees entitled to benefits but not yet receiving benefits | 149 | 142 |
| Active plan members | 371 | 346 |
| Total | 856 | 852 |

2. Another such item is the schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS**
(Dollar amounts in thousands)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) - Projected Unit Credit (b) | Unfunded AAL (UAAL) (b – a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b – a) / c) |
|---|---|---|---|---|---|---|
| 12/31/2011 | $85,154 | $73,127 | $(12,027) | 116.4% | $15,404 | (78.1)% |
| 12/31/2013 | 87,490 | 82,617 | (4,873) | 105.9 | 16,689 | (29.2) |
| 12/31/2015 | 92,002 | 85,852 | (6,150) | 107.2 | 19,042 | (32.3) |

3. The following shows the schedule of employer contributions (all dollar amounts are in thousands).

| Fiscal Year Ending June 30 | Valuation Date Ending December 31 | Actuarially Determined Contribution | Percentage Contributed |
|---|---|---|---|
| 2015 | 2013 | $1,370,866 | 100% |
| 2016 | 2013 | $1,457,186 | |
| 2017 | 2015 | $1,468,003 | |
| 2018 | 2015 | $2,270,524 | |

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at December 31, 2015. Additional information as of the latest actuarial valuation follows.

| | |
|---|---|
| Valuation date | 12/31/2015 |
| Actuarial cost method | Projected Unit Credit |
| Amortization method | Level dollar, closed |
| Remaining amortization period | 13 years |
| Asset valuation method | 5-year smoothed actuarial value |
| Actuarial assumptions: | |
| Investment rate of return* | 8.00% |
| Projected salary increases* | 4.75% |
| Cost-of-living adjustments | 2.30% |
| Social Security Wage Base | 3.00% |
| *Includes inflation at | 2.75% |

## SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended December 31, 2015 is shown below.

| | | $ Thousands |
|---|---|---|
| (1) | UAAL* as of December 31, 2013 | $ (4,873.0) |
| (2) | Total normal cost from last valuation | 2,146.9 |
| (3) | Total actual contributions for 2014 | 1,808.5 |
| (4) | Interest accrual: (1) x .08 + [[(2) – (3)] x .0392] | (376.6) |
| (5) | Expected UAAL as of December 31, 2014: (1) + (2) – (3) + (4) | $ (4,911.2) |
| (6) | Total normal cost from last valuation | 2,146.9 |
| (7) | Total actual contributions for 2015 | 1,650.5 |
| (8) | Interest accrual: (5) x .08 + [[(6) – (7)] x .0392] | (373.5) |
| (9) | Expected UAAL as of December 31, 2015 before changes: (5) + (6) – (7) + (8) | $ (4,788.3) |
| (10) | Change due to plan amendments | 0.0 |
| (11) | Change due to actuarial assumptions or methods | 0.0 |
| (12) | Expected UAAL as of December 31, 2015 after changes: (9) + (10) + (11) | $ (4,788.3) |
| (13) | Actual UAAL as of December 31, 2015 | $ (6,149.8) |
| (14) | Gain/(loss): (12) – (13) | $ 1,361.5 |
| (15) | Gain/(loss) as percent of actuarial accrued liabilities at start of year ($82,617.1) | 1.7% |

*Unfunded actuarial accrued liability.

| Valuation Date December 31 | Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities |
|---|---|
| 2011 | (22.4)% |
| 2013 | 5.4 |
| 2015 | 1.7 |

## SCHEDULE A

### RESULTS OF VALUATION

### PREPARED AS OF DECEMBER 31, 2015 AND DECEMBER 31, 2013

| | DECEMBER 31, 2015 | DECEMBER 31, 2013 |
|---|---|---|
| **1. ACTUARIAL ACCRUED LIABILITY** | | |
| Present value of prospective benefits payable in respect of: | | |
| (a) Present active members | | |
| - Service retirement benefits | $35,644,750 | $32,127,776 |
| - Disability retirement benefits | 1,438,316 | 1,284,003 |
| - Death and survivor benefits | 229,934 | 206,381 |
| - Total | $37,313,001 | $33,618,160 |
| (b) Present inactive members and members entitled to deferred vested benefits: | $3,321,605 | $2,020,114 |
| (c) Present annuitants and beneficiaries | $45,217,339 | $46,978,861 |
| (d) Total actuarial accrued liability [1(a) + 1(b) + 1(c)] | $85,851,945 | $82,617,135 |
| **2. ACTUARIAL VALUE OF ASSETS** | $92,001,796 | $87,490,158 |
| **3. UNFUNDED ACTUARIAL ACCRUED LIABILITY [1(d) – 2]** | $(6,149,851) | $(4,873,023) |

## SCHEDULE B

### DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

| For the Year Ending December 31 | | | 2015 | 2014 |
|---|---|---|---|---|
| (1) | Actuarial Value Beginning of Year* | | $ 90,558,920 | $ 87,490,158 |
| (2) | Market Value End of Year** | | $ 85,294,815 | $ 87,932,793 |
| (3) | Market Value Beginning of Year | | $ 87,932,793 | $ 86,744,972 |
| (4) | Cash Flow | | | |
| | (a) | Contributions | $ 1,650,544 | $ 1,808,512 |
| | (b) | Disbursements | (4,987,218) | (4,818,999) |
| | (c) | Net: (4)(a) + (4)(b) | $ (3,336,674) | $ (3,010,487) |
| (5) | Investment Income | | | |
| | (a) | Market Total: (2) – (3) – (4)(c) | $ 694,261 | $ 4,193,873 |
| | (b) | Assumed Rate | 8.00% | 8.00% |
| | (c) | Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(c) x (5)(b) x 0.5] | $ 7,111,247 | $ 6,878,793 |
| | (d) | Amount for Phased-In Recognition: (5)(a) – (5)(c) | (6,416,986) | (2,684,920) |
| (6) | Phased-In Recognition of Investment Income | | | |
| | (a) | Current Year: (5)(d) / 5 | $ (1,283,397) | $ (536,984) |
| | (b) | First Prior Year | (536,984) | 370,320 |
| | (c) | Second Prior Year | 370,320 | 456,187 |
| | (d) | Third Prior Year | 456,187 | (1,342,258) |
| | (e) | Fourth Prior Year | (1,342,258) | 248,756 |
| | (h) | Total Recognized Investment Gain | $ (2,336,132) | $ (803,979) |
| (7) | Preliminary Actuarial Value End of Year: (1) + (4)(c) + (5)(c) + (6)(h) | | $ 92,001,796 | $ 90,558,920 |
| (8) | Final Actuarial Value End of Year Using 20% Corridor: Greater of [(7) and .8 x (2)], but no more than 1.2 x (2) | | $ 92,001,796 | $ 90,558,920 |
| (9) | Difference Between Market & Actuarial Values: (2) – (8) | | $ (6,706,981) | $ (2,626,127) |
| (10) | Rate of Return on Actuarial Value | | 5.37% | 7.06% |

* Before corridor constraints, if applicable and adjusted.
** Includes additional receivables of $4,435 in 2015 and $4,435 in 2014.

## SCHEDULE C

### SUMMARY OF RECEIPTS AND DISBURSEMENTS
### (Market Value)

| | YEAR ENDING | |
|---|---|---|
| Receipts for the Year | December 31, 2015 ($1,000's) | December 31, 2014 ($1,000's) |
| Contributions: | | |
| Members | $ 237 | $ 246 |
| Employer | 1,414 | 1,563 |
| Subtotal | $ 1,651 | $ 1,809 |
| Investment Earnings | 694 | 4,194 |
| Health Services Allowance | 0 | 0 |
| Other | 4 | 4 |
| TOTAL | $ 2,349 | $ 6,007 |
| Disbursements for the Year | | |
| Benefit Payments | $ 4,973 | $ 4,797 |
| Refunds to Members | 14 | 22 |
| Health Services Cost | 0 | 0 |
| Other | 0 | 0 |
| TOTAL | $ 4,987 | $ 4,819 |
| Excess of Receipts over Disbursements | $ (2,638) | $ 1,188 |
| Reconciliation of Asset Balances | | |
| Asset Balance as of the Beginning of Year | $ 87,933 | $ 86,745 |
| Excess of Receipts over Disbursements | (2,638) | 1,188 |
| Asset Balance as of the End of Year | $ 85,295 | $ 87,933 |
| Rate of Return | 0.80% | 4.92% |

## SCHEDULE D

### OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

Adopted or reaffirmed by the Commission for the December 31, 2013 and later valuations.

**VALUATION INTEREST RATE:** 8.00% per annum, compounded annually, net of expenses.

**SALARY INCREASES:** 4.75% per annum.

**COST OF LIVING ADJUSTMENTS:** 2.30% per annum.

**SOCIAL SECURITY WAGE BASE INCREASES:** 3.00% per annum.

**SEPARATIONS BEFORE SERVICE RETIREMENT:** Representative values of the assumed annual rates of separation before service retirement are as follows:

| Age | Annual Rates of | | | |
|---|---|---|---|---|
| | Withdrawal | | Death | Disability |
| | Employees | Judges | | |
| | Men | | | |
| 20 | 5.00% | 5.00% | .024% | .03% |
| 25 | 5.00 | 5.00 | .032 | .04 |
| 30 | 5.00 | 2.50 | .037 | .06 |
| 35 | 5.00 | 1.25 | .059 | .08 |
| 40 | 5.00 | 0.75 | .086 | .12 |
| 45 | 5.00 | 0.38 | .107 | .19 |
| 50 | 5.00 | 0.00 | .142 | .31 |
| 55 | 5.00 | 0.00 | .219 | .52 |
| 60 | 5.00 | 0.00 | .414 | .73 |
| 65 | 5.00 | 0.00 | .810 | .00 |
| | Women | | | |
| 20 | 7.50% | 7.50% | .013% | .03% |
| 25 | 7.50 | 7.50 | .014 | .04 |
| 30 | 5.00 | 3.75 | .019 | .06 |
| 35 | 5.00 | 1.88 | .033 | .08 |
| 40 | 5.00 | 1.25 | .044 | .12 |
| 45 | 5.00 | 0.63 | .069 | .19 |
| 50 | 5.00 | 0.00 | .101 | .31 |
| 55 | 5.00 | 0.00 | .198 | .52 |
| 60 | 5.00 | 0.00 | .392 | .73 |
| 65 | 5.00 | 0.00 | .760 | .00 |

**RETIREMENT:** The assumed annual rates of retirement are shown below.

| Age | Annual Rates of Retirement* |
|---|---|
| 50 – 61 | 5% |
| 62 – 64 | 10 |
| 65 – 69 | 20 |
| 70 + | 100 |

**DEATHS AFTER RETIREMENT:** The RP 2000 Mortality Table projected with Scale AA 15 years for men set back 2 years and projected 25 years for women set back 1 year is used for the period after retirement and for dependent beneficiaries. Based on the results of the most recent experience study adopted by the Commission, the numbers of expected future deaths are 12-14% less than the actual number of deaths that occurred during the study period for healthy retirees. Representative values of the assumed annual rates of mortality are as follows:

| Age | Men | Women | Age | Men | Women |
|---|---|---|---|---|---|
| 40 | .086% | .044% | 65 | .810% | .760% |
| 45 | .107 | .069 | 70 | 1.425 | 1.311 |
| 50 | .142 | .101 | 75 | 2.460 | 2.083 |
| 55 | .219 | .198 | 80 | 4.483 | 3.482 |
| 60 | .414 | .392 | 85 | 8.075 | 5.981 |

50% (men) and 80% (women) of the RP-2000 Disability Mortality Table is used for the period after disability.

**ASSET METHOD:** Actuarial Value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected value of assets, based on the assumed valuation rate of return. The amount recognized each year is 1/5 of the difference between market value and expected actuarial value. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

**VALUATION METHOD:** Projected Unit Credit cost method. See Schedule E for a brief description of this method.

**SPOUSES:** For members who have elected spouse coverage, husbands are assumed to be three years older than their wives.

**NON-VESTED INACTIVE MEMBERS:** The employee contribution account balances as of the valuation date is used as a liability for these members.

## SCHEDULE E

## ACTUARIAL COST METHOD

The valuation is prepared on a projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 8.00%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members, beneficiaries and members entitled to deferred vested benefits to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.

The Projected Unit Credit cost method is used to develop employer contributions. The employer contributions required to support the benefits of the System consist of a normal contribution and an unfunded actuarial accrued liability contribution.

The Actuarial Accrued Liability is determined as the present value of benefits accrued to the valuation date, where the accrued benefit for each active member is the pro-rata portion (based on service to the valuation date) of the projected benefit payable at termination, death, disability or retirement. The Actuarial Accrued Liability for deferred vested and inactive members is the present value as of the valuation date of their remaining benefit payments.

The normal contribution is determined as the present value of the portion of the projected benefit attributable to the year following the valuation date.

The Unfunded Actuarial Accrued Liability is determined by subtracting the Actuarial Value of Assets from the Actuarial Accrued Liability.

## SCHEDULE F

### SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Connecticut Probate Judges and Employees Retirement System (CT PJERS) is a defined benefit pension plan established by the Connecticut General Assembly for the purpose of providing retirement allowances and other benefits for Probate judges and employees of probate courts in Connecticut, and their survivors and other beneficiaries. Special retirement provisions apply to a judge whose probate district is merged with another district and who has not been elected to a term which begins or is subsequent to such consolidation.

Eligibility Requirements

| | |
|---|---|
| Judges | All Judges of Probate (provided one full term is served by age 70). |
| Employees | All persons who are employed by any probate court for more than 430 hours per year. |
| Credited Service | All periods as a Judge of Probate, Acting Judge of Probate, Employee of any probate court, plus a period of not more than 3 years of service as a member of the General Assembly or in the military. |
| Final Average Compensation | *Judges* – average annual compensation for the 3 highest paid years of service in the probate court, provided the compensation for any year does not exceed the maximum net income allowed by law.<br><br>*Employees* – the average annual rate of pay during the employee's 3 highest paid years of employment. |

Normal Retirement Benefit

| | |
|---|---|
| Eligibility | *Judges* - Age 62 and 10 years of service (age 70 mandatory retirement provided one full term is served).<br><br>*Employees* - Age 62 and 10 years of service (age 70 mandatory retirement regardless of service). |
| Benefit | *Judges and Employees not covered by Social Security* – 2% of Final Average Compensation times years of Credited Service, minimum $360 annually.<br><br>*Judges and Employees covered by Social Security* – 1% of Final Average Compensation up to $4,800 plus 2% of Final Average Compensation above $4,800, times years of Credited Service, minimum $360 annually. |

Early Retirement Benefit

| | |
|---|---|
| Eligibility | *Judges and Employees* - 10 years of creditable service. |
| Benefit | Accrued benefit actuarially reduced unless separation occurs after age 60 in which case the reduction is .25% for each month that separation precedes age 62. |
| Disability Retirement Benefit | |
| Eligibility | 10 years of creditable service. |
| Benefit | Calculated as a normal retirement benefit |
| Deferred Vested Retirement Benefit | |
| Eligibility | 10 years of creditable service. |
| Benefit | Accrued benefit deferred to age 62. |
| Pre-Retirement Spouse's Benefit | |
| Eligibility | 10 years of service and married for at least one year. |
| Benefit | Average of 50% of life annuity benefit and 50% of joint and 50% survivor benefit which member would have received had he retired on the date of his death. |
| Termination Benefit | |
| Eligibility | Termination with less than 10 years of creditable service. |
| Benefit | Return of the member's accumulated contributions with interest (no interest paid if the termination is due to death). |
| Payment Options | Straight life annuity; 50% or 100% joint and last survivor annuity; 10 or 20 year certain and life annuity. |
| Cost of Living Adjustments | The COLA percentage is based on the average monthly change in the nationwide Consumer Price Index and it is applied annually on July 1 to the previous July 1 benefit amount. The COLA is limited to 3% and no adjustment is made if the change in the CPI is less than 1%. |

Contributions

| | |
|---|---|
| By Members | *Judges and Employees not covered by Social Security* – 3.75% of Compensation<br><br>*Judges and Employees covered by Social Security* – 1% of Compensation up to the current Social Security Wage Base plus 3.75% of Compensation above the current Social Security Wage Base. |
| By Employers | Employer contributions are actuarially determined and approved and certified by the Commission. The minimum employer contribution is the employer normal cost. |

## SCHEDULE G

**The Number and Average Annual Compensation of Active Judges**
**By Age and Service as of December 31, 2015**

| | Years of Service | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 & Up | Total |
| Under 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg. Pay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg. Pay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg. Pay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 to 39 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Avg. Pay | 103,752 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 103,752 |
| 40 to 44 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Avg. Pay | 87,281 | 118,622 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 102,952 |
| 45 to 49 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Avg. Pay | 92,037 | 123,545 | 0 | 110,773 | 0 | 0 | 0 | 0 | 0 | 105,833 |
| 50 to 54 | 0 | 3 | 1 | 2 | 3 | 3 | 0 | 0 | 0 | 12 |
| Avg. Pay | 0 | 97,186 | 118,722 | 120,084 | 120,230 | 111,173 | 0 | 0 | 0 | 112,055 |
| 55 to 59 | 3 | 3 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 12 |
| Avg. Pay | 71,681 | 104,015 | 106,501 | 107,085 | 118,622 | 110,124 | 0 | 0 | 0 | 99,139 |
| 60 to 64 | 1 | 4 | 0 | 1 | 1 | 4 | 1 | 0 | 0 | 12 |
| Avg. Pay | 103,752 | 110,419 | 0 | 118,622 | 118,722 | 115,748 | 118,722 | 0 | 0 | 113,707 |
| 65 to 69 | 0 | 1 | 0 | 3 | 2 | 2 | 1 | 1 | 0 | 10 |
| Avg. Pay | 0 | 123,445 | 0 | 119,896 | 104,574 | 120,534 | 118,622 | 118,622 | 0 | 117,059 |
| 70 & Up | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg. Pay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 8 | 13 | 2 | 9 | 7 | 12 | 2 | 1 | 0 | 54 |
| Avg. Pay | 86,738 | 108,530 | 112,612 | 116,345 | 115,312 | 113,996 | 118,672 | 118,622 | 0 | 109,412 |

Average Age: 57.7
Average Service: 12.3

## SCHEDULE G
**(Continued)**

**The Number and Average Annual Compensation of Active Employees By Age and Service as of December 31, 2015**

| Age | Years of Service | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 & Up | Total |
| Under 25 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Avg. Pay | 21,565 | 21,897 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21,786 |
| 25 to 29 | 5 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Avg. Pay | 27,703 | 27,047 | 28,941 | 0 | 0 | 0 | 0 | 0 | 0 | 27,958 |
| 30 to 34 | 3 | 13 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 33 |
| Avg. Pay | 40,610 | 30,708 | 37,260 | 46,062 | 0 | 0 | 0 | 0 | 0 | 36,050 |
| 35 to 39 | 0 | 8 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 16 |
| Avg. Pay | 0 | 32,217 | 40,342 | 55,752 | 45,447 | 0 | 0 | 0 | 0 | 39,488 |
| 40 to 44 | 0 | 6 | 9 | 2 | 7 | 2 | 0 | 0 | 0 | 26 |
| Avg. Pay | 0 | 36,946 | 33,625 | 46,574 | 55,651 | 42,595 | 0 | 0 | 0 | 42,008 |
| 45 to 49 | 2 | 13 | 11 | 5 | 5 | 3 | 0 | 0 | 0 | 39 |
| Avg. Pay | 42,846 | 36,159 | 47,210 | 49,126 | 56,260 | 48,468 | 0 | 0 | 0 | 44,805 |
| 50 to 54 | 5 | 11 | 12 | 9 | 4 | 3 | 4 | 1 | 1 | 50 |
| Avg. Pay | 26,015 | 34,224 | 39,538 | 41,312 | 50,528 | 58,648 | 66,586 | 73,900 | 47,943 | 42,381 |
| 55 to 59 | 2 | 11 | 21 | 14 | 8 | 2 | 5 | 1 | 0 | 64 |
| Avg. Pay | 28,059 | 27,755 | 40,908 | 46,695 | 43,585 | 60,154 | 66,512 | 77,001 | 0 | 43,012 |
| 60 to 64 | 4 | 3 | 7 | 2 | 12 | 7 | 2 | 0 | 2 | 39 |
| Avg. Pay | 29,799 | 26,968 | 41,991 | 42,106 | 54,396 | 50,300 | 62,460 | 0 | 75,341 | 47,659 |
| 65 to 69 | 0 | 2 | 4 | 7 | 3 | 4 | 3 | 1 | 1 | 25 |
| Avg. Pay | 0 | 32,257 | 31,475 | 34,483 | 54,094 | 41,623 | 63,271 | 69,542 | 75,470 | 43,816 |
| 70 & Up | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| Avg. Pay | 0 | 0 | 0 | 0 | 29,415 | 0 | 0 | 0 | 0 | 29,415 |
| Total | 24 | 77 | 86 | 46 | 42 | 21 | 14 | 3 | 4 | 317 |
| Avg. Pay | 29,838 | 31,369 | 39,137 | 44,378 | 50,975 | 49,783 | 65,260 | 73,481 | 68,524 | 41,430 |

Average Age: 49.8
Average Service: 10.5

**SCHEDULE G**
**(Continued)**

**NUMBER OF RETIRED MEMBERS**
**AND THEIR BENEFITS BY AGE**

| Age | Number | Total Annual Benefits | Average Annual Benefits |
|---|---|---|---|
| Under 50 | 1 | $ 6,335 | $ 6,335 |
| 50 - 54 | 7 | 25,891 | 3,699 |
| 55 - 59 | 10 | 74,276 | 7,428 |
| 60 - 64 | 26 | 285,250 | 10,971 |
| 65 - 69 | 47 | 913,000 | 19,426 |
| 70 - 74 | 71 | 1,298,199 | 18,284 |
| 75 - 79 | 49 | 740,358 | 15,109 |
| 80 - 84 | 42 | 530,713 | 12,636 |
| 85 - 89 | 30 | 380,693 | 12,690 |
| 90 - 94 | 15 | 176,282 | 11,752 |
| 95 & Over | 3 | 22,050 | 7,350 |
| Total | 301 | $ 4,453,047 | $ 14,794 |

**NUMBER OF BENEFICIARIES**
**AND THEIR BENEFITS BY AGE**

| Age | Number | Total Annual Benefits | Average Annual Benefits |
|---|---|---|---|
| Under 50 | 2 | $ 17,714 | $ 8,857 |
| 50 - 54 | 1 | 646 | 646 |
| 55 - 59 | 1 | 646 | 646 |
| 60 - 64 | 2 | 13,234 | 6,617 |
| 65 - 69 | 1 | 22,610 | 22,610 |
| 70 - 74 | 2 | 18,658 | 9,329 |
| 75 - 79 | 3 | 10,556 | 3,519 |
| 80 - 84 | 5 | 42,922 | 8,585 |
| 85 - 89 | 10 | 90,679 | 9,068 |
| 90 - 94 | 5 | 25,432 | 5,086 |
| 95 & Over | 3 | 43,108 | 14,369 |
| Total | 35 | $ 286,207 | $ 8,177 |

**SCHEDULE G**
**(Continued)**

**NUMBER OF DEFERRED VESTED MEMBERS AND THEIR BENEFITS BY AGE**

| Age | Number | Total Annual Benefits | Average Annual Benefits |
|---|---|---|---|
| Under 50 | 6 | $ 50,756 | $ 8,459 |
| 50 - 54 | 6 | 89,633 | 14,939 |
| 55 - 59 | 5 | 52,015 | 10,403 |
| 60 - 64 | 4 | 60,244 | 15,061 |
| 65 - 69 | 1 | 7,800 | 7,800 |
| 70 - 74 | 0 | 0 | 0 |
| 75 - 79 | 5 | 55,440 | 11,088 |
| 80 - 84 | 1 | 18,120 | 18,120 |
| 85 - 89 | 0 | 0 | 0 |
| 90 - 94 | 0 | 0 | 0 |
| 95 & Over | 0 | 0 | 0 |
| Total | 28 | $ 334,008 | $ 11,929 |

## SCHEDULE H

### ANALYSIS OF FINANCIAL EXPERIENCE

**Gains & Losses in Accrued Liabilities**
**Resulting from Difference Between**
**Assumed Experience & Actual Experience**
**($ Thousands)**

| Type of Activity | $ Gain (or Loss) For Two Year Period Ending 12/31/2015 | $ Gain (or Loss) For Two Year Period Ending 12/31/2013 |
|---|---|---|
| **Age & Service Retirements.** If members retire at older ages, there is a gain. If younger ages, a loss. | $ 828.7 | $ (479.2) |
| **Disability Retirements.** If disability claims are less than assumed, there is a gain. If more claims, a loss. | 1.4 | 11.2 |
| **Death-in Service Benefits.** If survivor claims are less than assumed, there is a gain. If more claims, there is a loss. | (297.2) | 42.0 |
| **Withdrawal From Employment.** If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss. | (453.2) | 273.6 |
| **Pay Increases.** If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. | 290.2 | 505.3 |
| **New Members.** Additional unfunded accrued liability will produce a loss. | (444.8) | (703.9) |
| **Investment Income.** If there is a greater investment income than assumed, there is a gain. If less income, a loss. | (3,131.2) | (4,312.7) |
| **Death After Retirement.** If retirants live longer than assumed, there is a loss. If not as long, a gain. | 3,971.7 | (767.1) |
| **Other.** Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc. | 595.9 | (494.6) |
| **Gain (or Loss) During Year From Financial Experience** | $ 1,361.5 | $ (3,977.8) |
| **Non-Recurring Items.** Adjustments for plan amendments, assumption changes, or method changes. | 0.0 | (3,211.5) |
| **Composite Gain (or Loss) During Year** | $ 1,361.5 | $ (7,189.3) |