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**STATE OF IOWA  
JUDICIAL RETIREMENT SYSTEM**

**Actuarial Valuation Report  
as of July 1, 2015**





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# Cavanaugh Macdonald

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October 2, 2015

Mr. David Boyd  
State of Iowa Judicial Retirement System  
State Court Administrator's Office  
1111 E. Court Ave.  
Des Moines, IA 50319

Dear Mr. Boyd:

At your request, we have performed an actuarial valuation of the Iowa Judicial Retirement System prepared as of July 1, 2015. The major findings are included in this report. The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2015 and to evaluate the sufficiency of the current statutory contribution rates. While not verifying the data at its source, the actuary performed tests for consistency and reasonability.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions.

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Mr. David Boyd  
October 2, 2015  
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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.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. Actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standard No. 67 are provided in a separate report.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Patrice Beckham'.

Patrice A. Beckham, FSA, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in cursive script that reads 'Brent A. Banister'.

Brent A. Banister, PhD, FSA, EA, FCA, MAAA  
Chief Pension Actuary

PB:BB/kc



## SECTION I – EXECUTIVE SUMMARY

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This report presents the results of the July 1, 2015 actuarial valuation for the State of Iowa Judicial Retirement System (System). The primary purposes of performing an actuarial valuation are to:

- measure and disclose asset and liability measures as of the valuation date;
- determine the contribution rate required to fund the System on an actuarial basis;
- determine the experience of the System since the last valuation date; and
- analyze and report on trends in System contributions, assets, and liabilities over the past several years.

The valuation results provide a “snapshot” view of the System’s financial condition on the valuation date, July 1, 2015. The unfunded actuarial accrued liability (UAAL) decreased from \$41 million on July 1, 2014 to \$30 million on July 1, 2015, indicating overall favorable experience for FY 2015. A more complete analysis of the change in the unfunded actuarial accrued liability from July 1, 2014 to July 1, 2015 is shown on page 5.

Experience on both the System’s assets and liabilities impacts the System’s funding and the actuarial contribution rate. Experience that is more favorable than anticipated, based on the actuarial assumptions, will generally lower the UAAL and the actuarial contribution rate and experience less favorable than expected will generally increase the UAAL and the actuarial contribution rate. The reduction in the UAAL was the result of both a gain on assets and liabilities. The rate of return on the market value of assets was 4.8% which is less than the expected return of 7.5%. However, due to the unrecognized asset gains from prior years, the return on the actuarial value of assets was 9.3% which exceeds the 7.5% expected return. The result was an actuarial gain on assets of \$2.5 million. There was also an actuarial gain on liabilities, largely due to salary increases that were lower than expected and mortality experience that was more favorable than expected, based on the actuarial assumptions. The UAAL decreased by \$6.6 million due to the favorable liability experience.

The actuarial contribution rate is determined as the sum of the normal cost rate plus a payment on the UAAL. The total actuarial contribution rate in this valuation was 32.89%, a decrease of 3.50% from the actuarial contribution rate in the last valuation of 36.39%. The System is funded by fixed contribution rates by both the members (9.35% of pay) and the state of Iowa (30.60% of pay) until the System is fully funded. Currently, the total contribution rate is 39.95% of payroll which exceeds the actuarial contribution rate. This means that the UAAL will be funded more rapidly than the payment schedule currently in place. In order for the financing of the System on a fixed contribution rate basis to be successful in the long-term, contributions above the actuarial contribution rate must be made to offset the periods where the fixed contribution rate may be below the actuarial contribution rate. Therefore, we recommend the current provisions related to funding the System remain unchanged.

Detailed discussions on the assets, liabilities and contribution rates can be found in the following pages of this Executive Summary.



## SECTION I – EXECUTIVE SUMMARY

The highlights of the valuation are:

<b>Funded Status</b>	<b>Actuarial Valuation Date</b>	
	<b>July 1, 2015</b>	<b>July 1, 2014</b>
<b><u>Using Actuarial Value of Assets</u></b>		
Actuarial Accrued Liability	\$186,269,470	\$183,915,864
Actuarial Assets	156,347,426	142,588,658
Unfunded Actuarial Accrued Liability	\$ 29,922,044	\$ 41,327,206
Funded Ratio	83.9%	77.5%
<b><u>Using Market Value of Assets</u></b>		
Actuarial Accrued Liability	\$186,269,470	\$183,915,864
Market Assets	163,990,416	155,974,313
Unfunded Actuarial Accrued Liability	\$ 22,279,054	\$ 27,941,551
Funded Ratio	88.0%	84.8%

The total actuarial required contribution rate in the 2015 valuation is lower than last year. The State's portion of the actuarial contribution rate decreased from 27.04% in the 2014 valuation to 23.54% in the 2015 valuation. The current statutory contribution rate is 30.60% of pay, resulting in a contribution margin of 7.06%, as shown below:

<b>Required Contribution Rate</b>	<b>Actuarial Valuation Date</b>	
	<b>July 1, 2015</b>	<b>July 1, 2014</b>
1. Normal Cost	21.93%	22.39%
2. Amortization Payment	10.96%	14.00%
3. Total Contribution Rate (1) + (2)	32.89%	36.39%
4. Expected Member Contribution Rate	9.35%	9.35%
5. State Contribution Rate (3) - (4)	23.54%	27.04%
6. Statutory Contribution Rate	30.60%	30.60%
7. Shortfall/(Margin) (5) - (6)	(7.06%)	(3.56%)



## SECTION I – EXECUTIVE SUMMARY

### EXPERIENCE

#### July 1, 2014 to June 30, 2015

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2015. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

Changes in the System’s assets and liabilities impacted the change in the actuarial contribution rate between the July 1, 2014 and July 1, 2015 actuarial valuations. On the following pages each component is discussed.

### ASSETS

As of July 1, 2015, the System had total funds when measured on a market value basis, of \$164.0 million. This was an increase of about \$8.0 million from the July 1, 2014 figure of \$156.0 million.

The market value of assets is not used directly in the calculation of contribution rates. An asset valuation method is used to smooth the effect of market fluctuations. See page 10 for the detailed development of the actuarial value of assets as of July 1, 2015.

The actuarial value of assets as of July 1, 2015, was \$156.3 million. The annualized dollar-weighted rate of return for FY 2015, measured on the actuarial value of assets, was 9.3%, and ,measured on the market value of assets, was 4.8%, net of expenses. The components of the change in the market and actuarial value of assets for the System (in millions) are set forth below.

	\$(millions)	
	Market Value	Actuarial Value
Net Assets, July 1, 2014	\$156	\$143
• Employer and Member Contributions	11	11
• Benefit Payments	(11)	(11)
• Investment Income	8	13
Net Assets, July 1, 2015	\$164	\$156
Estimated Rate of Return	4.8%	9.3%



## SECTION I – EXECUTIVE SUMMARY

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Due to the impact of unrecognized asset gains from prior years, the rate of return on the actuarial value of assets was higher than the assumed rate of 7.5%, resulting in an actuarial gain on assets. As of July 1, 2015, there is about \$8 million of net deferred investment gains that have not been recognized (last year there was \$13 million of deferred gains). Absent unfavorable investment experience in future years to offset the recognition of the deferred gain, it will flow through the asset smoothing method and future contribution rates are expected to decrease.

### LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and asset values at the same date is referred to as the unfunded actuarial accrued liability (UAAL). The unfunded actuarial accrued liability will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest on the previous balance of the unfunded actuarial accrued liability.

The unfunded actuarial accrued liability as of July 1, 2015 is shown below:

Actuarial Accrued Liability	\$ 186,269,470
Actuarial Value of Assets	156,347,426
Unfunded Actuarial Accrued Liability	<u>\$ 29,922,044</u>

Factors influencing the UAAL from year to year include actual experience versus that expected based on the actuarial assumptions (both asset and liability), changes in actuarial assumptions, procedures or methods and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (fiscal year ending 2015).

The UAAL decreased from \$41 million on July 1, 2014 to \$30 million on July 1, 2015. The System experienced a total actuarial gain (actual versus expected experience) of \$9.1 million for the year ending June 30, 2015. Actuarial experience (gain or loss) is measured by comparing the expected UAAL (developed using the actuarial assumptions) and the actual UAAL. The return on the actuarial value of assets was 9.3%, which is higher than the actuarial assumption of 7.5%. This resulted in an actuarial gain of \$2.5 million, which decreased the UAAL. The actuarial gain on the liabilities was \$6.6 million, which was largely due to salary increases that were lower than expected and mortality experience that was more favorable than expected based on the actuarial assumptions.



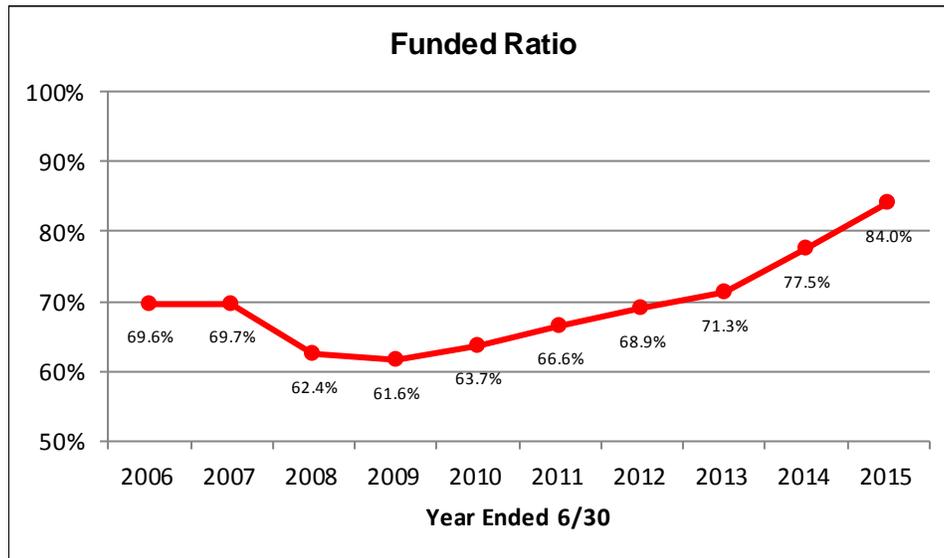
**SECTION I – EXECUTIVE SUMMARY**

Between July 1, 2014 and July 1, 2015 the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

	<u>\$ millions</u>
Unfunded Actuarial Accrued Liability, July 1, 2014	41.3
• effect of contributions more than the actuarial rate	(1.1)
• expected decrease due to amortization method	(1.0)
• investment experience	(2.5)
• liability experience <sup>1</sup>	(6.6)
• other actuarial experience	(0.2)
Unfunded Actuarial Accrued Liability, July 1, 2015	29.9

<sup>1</sup> Liability gain was 3.54% of actuarial accrued liability

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both large numbers) is reflected. Another way to evaluate the progress made in the System’s funding is to track the funded status, which is the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status is shown in the graph below:



**CONTRIBUTION RATES**

The funding objective of the System is to pay the normal cost rate plus the amortization of each piece of the unfunded actuarial accrued liability over a 25-year closed period commencing with the valuation date on which the base was created.



**SECTION I – EXECUTIVE SUMMARY**

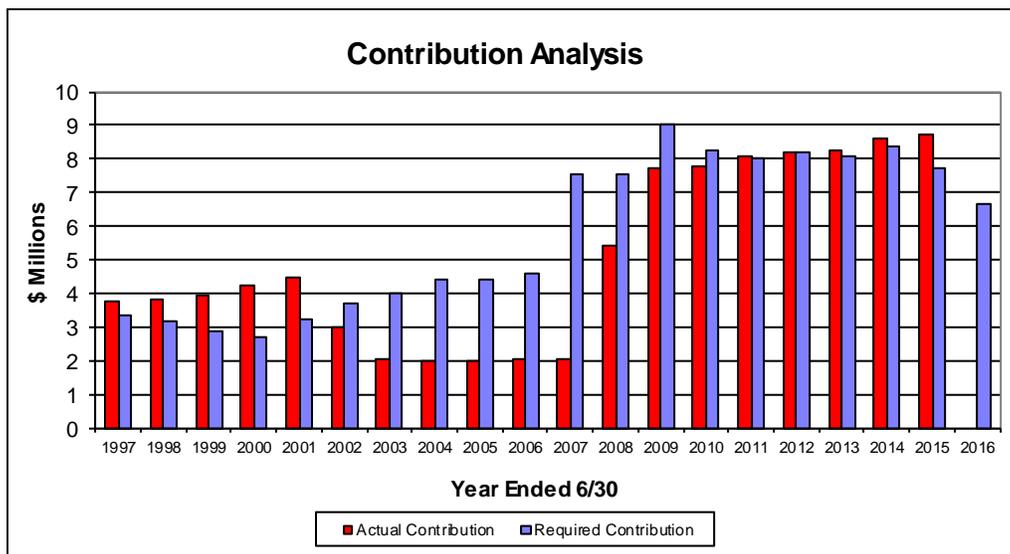
Under the Entry Age Normal cost method, the actuarial contribution rate consists of:

- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date,
- an "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

	<b>Plan Year Beginning</b>	
	<b><u>July 1, 2015</u></b>	<b><u>July 1, 2014</u></b>
Prior year total contribution rate	36.39%	39.05%
• change in normal cost	(0.46%)	0.21%
• change due amortization method	(0.57%)	(0.69%)
• change due to asset (gains)/losses	(0.78%)	(1.35%)
• change due to liability/other actuarial experience	(1.38%)	(0.74%)
• change due to actual contribution rate different from actuarial rate	(0.31%)	(0.09%)
Current year total actuarial contribution rate	32.89%	36.39%
Member's contribution rate	(9.35%)	(9.35%)
<b>State's actuarial contribution rate</b>	<b>23.54%</b>	<b>27.04%</b>

Contributions to the System, by the members and the state, are set in statute. Currently, the member contribution rate is 9.35% and the employer contribution rate is 30.60% of pay for a total statutory contribution rate of 39.95%.

The following graph summarizes the actual and the actuarial employer contributions in recent years.





## SECTION I – EXECUTIVE SUMMARY

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### COMMENTS

Over the last five years, the investment return on plan assets has been higher than the assumed rate of return of 7.5%, producing actuarial asset gains. In addition, over the same time period there have also been liability gains, largely due to lower than expected salary increases. Together, these experience gains have improved the System's funded status from 64% to 84%. In addition to strong investment returns, the total contributions to the System have increased which also strengthens the System's long-term funding.

The actuarial contribution rate was lower than the statutory contribution rate in the last valuation by 3.56% of pay. In the current valuation, the actuarial contribution rate continues to be lower than the statutory contribution rate and the difference has increased to 7.06% of pay. However, in order for the financing of the System on a fixed contribution rate basis to be successful, contributions above the actuarial rate must be made to offset the periods where the fixed contribution rate may be below the actuarial contribution rate.

If all actuarial assumptions are met in future years, except covered payroll remains level, the funded ratio of the System is expected to increase over time and reach full funding around July 1, 2022. If covered payroll increases in future years and all other assumptions are met, the System is expected to reach fully funded status before 2022. However, future investment experience is expected to vary from year to year, significantly at times. That volatility and how the actual returns unfold will heavily impact the funding of the System and the sufficiency of the current statutory contribution rates to eliminate the unfunded actuarial accrued liability.



**SECTION I – EXECUTIVE SUMMARY**

**STATE OF IOWA  
JUDICIAL RETIREMENT SYSTEM**

**SUMMARY OF PRINCIPAL VALUATION RESULTS**

	<b>Actuarial Valuation as of <u>July 1, 2015</u></b>	<b>Actuarial Valuation as of <u>July 1, 2014</u></b>	<b>% Change</b>
<b>1. SUMMARY OF DATA</b>			
Active Judges	202	204	(1.0%)
Senior Judges and Retired Senior Judges	61	61	0.0%
Retired and Disabled Judges	86	85	1.2%
Beneficiaries	48	49	(2.0%)
Inactive Vested Judges	6	5	20.0%
Total Members	<u>403</u>	<u>404</u>	(0.2%)
<b>2. ACTIVE PARTICIPANT STATISTICS</b>			
Total Compensation	\$ 28,270,390	\$ 28,534,201	(0.9%)
Average Compensation	139,952	139,874	0.1%
Average Age	57.40	57.15	0.4%
Average Service	11.79	11.48	2.7%
<b>3. ASSET AND LIABILITY INFORMATION</b>			
Actuarial Accrued Liability	\$ 186,269,470	\$ 183,915,864	1.3%
Actuarial Value of Assets	156,347,426	142,588,658	9.6%
Unfunded Actuarial Accrued Liability (UAAL)	29,922,044	41,327,206	(27.6%)
Funded Ratio (Actuarial Value)	83.9%	77.5%	8.3%
Market Value of Assets	\$ 163,990,416	\$ 155,974,313	5.1%
Funded Ratio (Market Value)	88.0%	84.8%	3.8%
<b>4. CONTRIBUTION INFORMATION</b>			
Normal Cost	21.93%	22.39%	(2.1%)
UAAL Payment	<u>10.96%</u>	<u>14.00%</u>	(21.7%)
Total Actuarial Contribution	32.89%	36.39%	(9.6%)
Less Member Contribution	<u>(9.35%)</u>	<u>(9.35%)</u>	0.0%
State Contribution	23.54%	27.04%	(12.9%)
Less Statutory Contribution	<u>(30.60%)</u>	<u>(30.60%)</u>	0.0%
Shortfall/(Margin)	(7.06%)	(3.56%)	98.3%



## SECTION II – SUMMARY OF VALUATION RESULTS

**TABLE 1**

**STATEMENT OF CHANGES IN PLAN NET ASSETS**

	<u>Year End</u> <u>June 30, 2015</u>	<u>Year End</u> <u>June 30, 2014</u>
<b>Additions</b>		
1. Contributions		
a. State	\$ 8,724,008	\$ 8,630,064
b. Members	2,665,685	2,925,803
c. Total Contributions (a + b)	<u>11,389,693</u>	<u>11,555,867</u>
2. Investment Income		
a. Interest	\$ 1,585,796	\$ 1,479,376
b. Dividends	1,610,735	1,316,446
c. Gain on Sale of Investments	2,572,797	23,752,150
d. Net Appreciation	(5,030)	(1,048)
e. Litigated Settlement	2,500,000	0
f. Investment Expenses	<u>(731,394)</u>	<u>(663,221)</u>
g. Total Investment Income (a + b + c + d + e + f)	7,532,904	25,883,703
3. Total Additions (1c + 2g)	\$ 18,922,597	\$ 37,439,570
<b>Deductions</b>		
4. Deductions		
a. Benefit Payments	\$ 10,891,098	\$ 10,376,964
b. Administrative Expense	15,396	17,127
c. Total Deductions (a + b)	<u>10,906,494</u>	<u>10,394,091</u>
5. Net Increase (3 – 4c)	\$ 8,016,103	\$ 27,045,479
6. Net Assets Held in Trust for Pension Benefits		
a. Beginning of Year	\$ 155,974,313	\$ 128,928,834
b. End of Year	\$ 163,990,416	\$ 155,974,313



## SECTION II – SUMMARY OF VALUATION RESULTS

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### TABLE 2 DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

As of July 1, 2015

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. This methodology smoothes the volatility of market experience by only recognizing 25% of the difference between the expected value of the actuarial value of assets (based on the actuarial assumptions) and the actual market value.

1. Actuarial Value of Assets as of July 1, 2014	\$	142,588,658
2. Actual Contribution/Disbursements		
a. Contributions		11,389,693
b. Benefit Payments and Refunds		(10,891,098)
c. Net	\$	<u>498,595</u>
3. Expected Value of Assets as of July 1, 2015 [(1) x 1.075] + [(2c) x (1.075) <sup>1/2</sup> ]		153,799,762
4. Market Value of Assets as of July 1, 2015		163,990,416
5. Difference Between Market and Expected Values (4) - (3)		10,190,654
6. Actuarial Value of Assets as of July 1, 2015 (3) + [(5) x 25%]	\$	156,347,426
7. Actuarial Value of Assets divided by Market Value of Assets (6) / (4)		95.3%
8. Market Value of Assets less Actuarial Value of Assets (4) - (6)	\$	7,642,990



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 3**  
**PRESENT VALUE OF FUTURE BENEFITS**  
**AS OF JULY 1, 2015**

1. Active employees	
a. Retirement Benefit	\$ 129,405,266
b. Withdrawal Benefit	22,558
c. Pre-Retirement Death Benefit	1,560,207
d. Total	<u>\$ 130,988,031</u>
2. Inactive Vested Members	2,109,109
3. Retirees, Disableds and Beneficiaries	<u>102,063,335</u>
4. Total Present Value of Future Benefits	<u><u>\$ 235,160,475</u></u>
(1d) + (2) + (3)	



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 4**  
**UNFUNDED ACTUARIAL ACCRUED LIABILITY**  
**as of July 1, 2015**

1. Present Value of Future Benefits	
a. Active Employees	\$ 130,988,031
b. Inactive Employees	<u>104,172,444</u>
c. Total	\$ 235,160,475
2. Present Value of Future Normal Costs	48,891,005
3. Total Actuarial Accrued Liability (1c) - (2)	186,269,470
4. Actuarial Value of Assets	156,347,426
5. Unfunded Actuarial Accrued Liability	\$ 29,922,044



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 5**  
**ACTUARIAL BALANCE SHEET**  
**July 1, 2015**

**ASSETS**

Actuarial value of assets	\$ 156,347,426
Present value of future normal costs	48,891,005
Payments on Unfunded Actuarial Accrued Liability	<u>\$ 29,922,044</u>
<b>Total Net Assets</b>	<b>\$ 235,160,475</b>

**LIABILITIES**

Present Value of Projected Benefits:

Active Members	
Retirement Benefits	\$ 129,405,266
Withdrawal Benefits	22,558
Pre-Retirement Death Benefits	1,560,207
Members with Deferred Benefits	2,109,109
Members Receiving Benefits	<u>\$ 102,063,335</u>
<b>Total Liabilities</b>	<b>\$ 235,160,475</b>



## SECTION II – SUMMARY OF VALUATION RESULTS

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**TABLE 6**

**ACTUARIAL GAIN/(LOSS)  
Plan Year Ending June 30, 2015**

The actuarial gain/(loss) is comprised of both the liability and the actuarial asset gain/(loss). Each of these represents the difference between the expected and actual values as of July 1, 2015.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at July 1, 2014	\$ 183,915,864
b. Normal cost for FYE 2015	5,988,783
c. Benefit payments for fiscal year ending June 30, 2015	(10,891,098)
d. Interest at 7.5% on (a), (b), and (c)	13,841,816
e. Expected actuarial accrued liability at July 1, 2015 (a) + (b) + (c) + (d)	\$ 192,855,365
2. Actuarial accrued liability at July 1, 2015	\$ 186,269,470
3. Actuarial accrued liability gain/(loss) (1e) - (2)	\$ 6,585,895
4. Expected actuarial value of assets	
a. Actuarial value of assets at July 1, 2014	\$ 142,588,658
b. Contributions for fiscal year ending June 30, 2015	11,389,693
c. Benefit payments and administrative expenses for fiscal year ending June 30, 2015	(10,891,098)
d. Interest at 7.5% on (a), (b), and (c)	10,712,509
e. Expected actuarial value of assets at July 1, 2015 (a) + (b) + (c) + (d)	\$ 153,799,762
5. Actuarial value of assets at July 1, 2015	\$ 156,347,426
6. Actuarial value of assets gain/(loss) (5) - (4e)	\$ 2,547,664
7. Net actuarial gain/(loss) (3) + (6)	\$ 9,133,559



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 7**  
**SUMMARY OF AMORTIZATION BASES**  
**At July 1, 2015**

<u>Date Established</u>	<u>Original Amount</u>	<u>Years Remaining</u>	<u>Amortization Payment*</u>	<u>Outstanding Balance</u>
July 1, 2009	\$57,984,095	19	\$5,017,053	\$51,805,046
July 1, 2010	(517,789)	20	(44,801)	(473,541)
July 1, 2011	(704,233)	21	(60,934)	(657,900)
July 1, 2012	(1,072,732)	22	(92,817)	(1,021,743)
July 1, 2013	(563,586)	23	(48,764)	(546,381)
July 1, 2014	(8,952,654)	24	(774,625)	(8,820,955)
July 1, 2015	(10,362,482)	25	<u>(896,610)</u>	<u>(10,362,482)</u>
			\$3,098,502	\$29,922,044

\* Each base is amortized as a level dollar amount over 25 years. Amortization Payment reflects mid-year timing.

Total UAAL Amortization Payment	\$3,098,502
Projected Payroll for Fiscal Year	\$28,270,390
UAAL Amortization Payment Rate	10.96%



## SECTION II – SUMMARY OF VALUATION RESULTS

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**TABLE 8**

**DETERMINATION OF REQUIRED  
CONTRIBUTION RATE**

<b>1. Normal Cost</b>	
a. Retirement Benefits	21.54%
b. Pre-Retirement Death Benefits	0.35%
c. Withdrawal Benefits	0.04%
d. Total	<u>21.93%</u>
<b>2. UAAL Amortization Payment (See Table 7)</b>	
a. Amount (mid-year)	\$ 3,098,502
b. Projected Payroll for Fiscal Year	\$ 28,270,390
c. UAAL payment (% of pay)	10.96%
<b>3. Total Contribution Rate</b>	32.89%
(1d) + (2c)	
<b>4. Member Contribution Rate</b>	9.35%
<b>5. State Contribution Rate</b>	23.54%
(3) - (4)	
<b>6. State Statutory Contribution Rate</b>	30.60%
<b>7. Contribution Rate Shortfall/(Surplus)</b>	(7.06%)
(5) - (6)	
<b>8. Annual Required Contribution (ARC)</b>	\$6,654,850
(2b) x (5)	



SECTION III – OTHER INFORMATION

**TABLE 9**  
**SCHEDULE OF FUNDING PROGRESS**  
**(In Thousands)**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets<sup>1</sup></b>	<b>Actuarial Accrued Liability (AAL)</b>	<b>Unfunded AAL (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL/ Covered Payroll ((b-a)/c)</b>
	<b>(a)</b>	<b>(b)</b>	<b>(b-a)</b>	<b>(a/b)</b>	<b>(c)</b>	<b>((b-a)/c)</b>
July 1, 2005	\$81,605	\$105,472	\$23,867	77%	\$20,684	115%
July 1, 2006	86,110	123,670	37,560	70%	24,094	156%
July 1, 2007	96,619	138,662	42,043	70%	24,426	172%
July 1, 2008	88,198	141,364	53,166	62%	26,663	199%
July 1, 2009	93,045	151,029	57,984	62%	26,811	216%
July 1, 2010	99,416	156,029	56,613	64%	25,480	222%
July 1, 2011	109,512	164,511	54,999	67%	26,403	208%
July 1, 2012	117,272	170,232	52,960	69%	25,760	206%
July 1, 2013	127,353	178,725	51,372	71%	28,278	182%
July 1, 2014	142,589	183,916	41,327	78%	28,534	145%
July 1, 2015	156,347	186,269	29,922	84%	28,270	106%

<sup>1</sup> The actuarial value of assets was changed from pure market value to the expected value plus 25% of the difference between actual and expected value effective with the July 1, 2009 valuation.

Note: Results before July 1, 2010 were calculated by the prior actuary



**TABLE 10**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

<u>Year Ended</u>	<u>Annual Required Contribution</u>	<u>Percentage Contributed</u>
June 30, 2005	\$4,394,389	46%
June 30, 2006	4,614,846	44%
June 30, 2007	7,560,981	27%
June 30, 2008	7,552,722	72%
June 30, 2009	9,024,252	86%
June 30, 2010	8,257,696	95%
June 30, 2011	7,994,811	101%
June 30, 2012	8,225,558	100%
June 30, 2013	8,085,627	102%
June 30, 2014	8,398,680	103%
June 30, 2015	7,715,648	113%

Note: Results before July 1, 2010 were calculated by the prior actuary



**APPENDIX A**  
**ACTUARIAL ASSUMPTIONS AND METHODS**



## APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS

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### Actuarial Assumptions

<i>Interest</i>	7.5% per annum.	
<i>Mortality</i>	RP-2000 Healthy Annuitant and Employee Mortality Tables with generational improvements and a one year age set back.	
<i>Turnover</i>	1.0% per year for all participants under age 45.	
<i>Rate of Disablement; Disabled Life Mortality</i>	No incidence of disability was assumed.	
<i>Salary Increases</i>	Salaries will increase 4.25% per annum.	
<i>Incidence of Retirement</i>	The following table indicates the assumed rate of retirement at each age.	
	<u>Age</u>	<u>Rate</u>
	50 - 59	3%
	60 - 64	12
	65 - 71	20
	72	100
	Inactive vested members are assumed to begin receiving benefits at age 65.	
<i>Spouse's Benefit</i>	85% of employees were assumed married, with the spouse four years younger.	
<i>Internal Revenue Service Limits on Recognized Pay</i>	The limit is assumed to increase based on cost of living increases of 3.0% per year.	
<i>Retiring Judges Electing Senior Judge Status</i>	80%, with 60% relinquishing after 6 years if before 78.	
<i>Adjustment to Benefit for Senior Judges</i>	<u>Became Senior Judge</u>	<u>Adjustment</u>
	Before 1/1/93	4.25% for life
	1/1/93 to 7/1/94	4.25% to age 78
	7/1/94 and later	3.1875% to age 78
<i>Decrement Timing</i>	Middle of year	
<i>Interest Credited to Contribution Balances</i>	4% per annum	



## APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS

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### Asset Valuation Method

The market value of assets, representing a fair value of System assets, may not necessarily be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens volatility in the market value while still indirectly recognizing market value. The specific technique follows:

- Step 1:** Determine the expected value of plan assets at the current valuation date using the actuarial value of assets from the prior valuation, the actuarial assumption for investment return and the actual receipts and disbursements of the fund for the previous 12 months.
- Step 2:** Subtract the expected value determined in Step 1 from the total market value of the Fund at the current valuation date.
- Step 3:** Multiply the difference between market and expected values determined in Step 2 by 25%.
- Step 4:** Add the expected value of Step 1 and the product of Step 3 to determine the actuarial value of assets.

### Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age Normal method of funding.

Sometimes called the “funding method”, this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.



## **APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS**

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### **Amortization Method**

#### **Level Dollar Amortization Method**

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.

#### **Amortization Period**

The amortization period on the existing UAAL at July 1, 2009 was set to a closed 25-year period. A new amortization base is established each year, reflecting the difference in actual and expected experience. Each base established after 2009, is amortized over a new closed 25-year period.



**APPENDIX B**  
**SUMMARY OF PLAN PROVISIONS**



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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### STATE OF IOWA JUDICIAL RETIREMENT SYSTEM

#### Summary of Plan Provisions

An actuarial valuation involves the projection of the amount and timing of future benefit payments. Summarized below are the principal provisions of the plan which were used to estimate future benefit payments.

<i>Credited Service</i>	All years of service as a judge are credited.
<i>Average Monthly Salary</i>	Average monthly basic salary for highest three years as a judge. Each year's pay is limited to the compensation limit in Section 401(a)(17) of the Internal Revenue Code.
<i>Accrued Benefit</i>	The benefit payable at Normal Retirement Date which the judge has earned based on average salary and credited service to date.
<i>Normal Form</i>	The normal form of payment is an annuity payable for the life of the judge with one-half such amount payable to an eligible surviving spouse with a guarantee that payments totaling at least the amount of the judge's contributions will be made.
<i>Eligible Spouse</i>	A spouse is eligible if married to the judge for at least the one year preceding death.
<i>Retirement Eligibility</i>	Age 65 with a minimum of four years of service or 20 years of service and age 50.
<i>Mandatory Retirement Date</i>	Age 72 for active judges. Age 78 for judges participating in the Senior Judge Program, unless reappointed at the discretion of the Supreme Court.
<i>Monthly Retirement Benefit</i>	Effective July 1, 2006, 3.25% of Average Monthly Salary times years of credited service subject to a maximum of 65% of final earnings. Prior to 2006 the formula was 3% of average monthly salary times years of service subject to a maximum of 50% until July 1, 1998, 52% from July 1, 1998 until June 30, 2000, 56% from July 1, 2000 to June 30, 2001, 60% effective July 1, 2001. Commencing July 1, 1992, a judge or a survivor of a judge who retired before June 1, 1977, shall receive a minimum monthly annuity payment of \$500.
<i>Disability Retirement</i>	Upon total and permanent disability with a minimum of four years of credited service, the Judge receives the accrued benefit.
<i>Vesting</i>	100% vesting for voluntary terminations after 4 years of credited service (6 years prior to July 1, 2006). 100% vesting for Judges' contributions at all times.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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- Pre-Retirement Death Benefit*** Four years of service required. The death benefit payable to an eligible spouse is one-half the accrued benefit at the date of death. The death benefit shall commence on the later of the date of death or the date the spouse reaches age 60.
- Judge's Required Contribution Rate*** July 1, 2008, 7.7% of pay. Effective July 1, 2009, 8.7% of pay. Effective July 1, 2010 and for each subsequent fiscal year until the System attains fully funded status, 9.35% of pay. Thereafter, the member contribution rate is 40% of the actuarially required contribution rate.
- State's Required Contribution Rate*** For the fiscal year beginning July 1, 2008, and for each subsequent fiscal year until the system attains fully funded status, 30.6% of pay. Commencing with the first fiscal year in which the system attains fully funded status, and for each subsequent fiscal year, the percentage rate equal to 60% of the actuarially required contribution rate.
- Annuity for Senior Judges and Retired Senior Judges***
- (a) Judges retiring and becoming Senior Judges before January 1, 1993:
- The annuity for all senior judges or retired senior judges will be equal to 3% of the current base salary of the office in which the judge last served before retirement as a judge or senior judge, multiplied by the judge's years of service prior to retirement as a judge, subject to a maximum of 50% of such current base salary.
- (b) Judges retiring and becoming Senior judges on or after January 1, 1993 and before July 1, 1994:
- The annuity is the same as (a) above, except that the annuity will increase only until the year in which the judge attains age 78. At that point, it will remain the same until the judges' death.
- (c) Judges retiring and becoming Senior Judges on or after July 1, 1994:
- The annuity is the same as (b) above, except that the percentage increase of the annuity each year is only 75% of the amount that it would have been under (b).
- (d) Judges retiring and becoming Senior Judges on or after July 1, 1998:
- The annuity is the same as (c) above, except that the maximum benefit is 52% of the current base salary.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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- (e) Judges retiring and becoming Senior Judges on or after July 1, 2000:

The annuity is the same as (d) above, except that the maximum benefit is 56% of the current base salary.

- (f) Judges retiring and becoming Senior Judges on or after July 1, 2001:

The annuity is the same as (e) above, except that the maximum benefit is 60% of the current base salary.

- (g) Judges retiring and becoming Senior Judges on or after July 1, 2006: The percentage multiplier is 3.25% per year of service and the maximum benefit is 65% of the current base salary.



**APPENDIX C**  
**SYSTEM MEMBERSHIP INFORMATION**



APPENDIX C – SYSTEM MEMBERSHIP INFORMATION

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**RECONCILIATION OF MEMBER STATUS**

From July 1, 2014 to July 1, 2015

	<u>Active Members</u>	<u>Inactive Vesteds</u>	<u>Senior Judge*</u>	<u>Retired Members</u>	<u>Disabled Members</u>	<u>Beneficiaries</u>	<u>Total</u>
<b>Members as of July 1, 2014</b>	<b>204</b>	<b>5</b>	<b>61</b>	<b>79</b>	<b>6</b>	<b>49</b>	<b>404</b>
New Entrants	8	0	0	0	0	8	16
Non-vested Terminations	0	0	0	0	0	0	0
Vested Terminations	(1)	1	0	0	0	0	0
Senior Judge Status	(7)	0	7	0	0	0	0
Relinquished Senior Judge Status	0	0	(5)	5	0	0	0
Retirement	(2)	0	0	2	0	0	0
Deceased	0	0	(2)	(5)	(1)	(9)	(17)
Data Adjustments	0	0	0	0	0	0	0
<b>Members as of July 1, 2015</b>	<b>202</b>	<b>6</b>	<b>61</b>	<b>81</b>	<b>5</b>	<b>48</b>	<b>403</b>

\*Senior Judges include both those serving as Senior Judges as well as those still entitled to future benefit increases.



**APPENDIX C – SYSTEM MEMBERSHIP INFORMATION**

**ACTIVE MEMBERS AS OF JULY 1, 2015**

Age	Number of Employees			Annual Salary		
	Male	Female	Total	Male	Female	Total
under 30	0	0	0	\$ 0	\$ 0	\$ 0
30-34	0	0	0	0	0	0
35-39	1	0	1	127,908	0	127,908
40-44	3	4	7	426,361	527,621	953,982
45-49	16	14	30	2,190,429	1,891,975	4,082,404
50-54	18	8	26	2,462,234	1,113,868	3,576,102
55-59	34	14	48	4,807,219	1,918,623	6,725,842
60-64	40	10	50	5,699,910	1,412,321	7,112,231
65-69	31	6	37	4,423,497	836,733	5,260,230
70 & up	3	0	3	431,691	0	431,691
<b>Totals</b>	<b>146</b>	<b>56</b>	<b>202</b>	<b>\$20,569,249</b>	<b>\$7,701,141</b>	<b>\$28,270,390</b>

**ACTIVE AGE / SERVICE DISTRIBUTION AS OF JULY 1, 2015**

Age	Years of Service								Total Count
	0-4 Count	5-9 Count	10-14 Count	15-19 Count	20-24 Count	25-29 Count	30-34 Count	35+ Count	
under 30	0	0	0	0	0	0	0	0	<b>0</b>
30-34	0	0	0	0	0	0	0	0	<b>0</b>
35-39	1	0	0	0	0	0	0	0	<b>1</b>
40-44	4	3	0	0	0	0	0	0	<b>7</b>
45-49	18	10	2	0	0	0	0	0	<b>30</b>
50-54	7	11	2	5	1	0	0	0	<b>26</b>
55-59	15	10	7	11	4	1	0	0	<b>48</b>
60-64	5	11	8	13	7	4	2	0	<b>50</b>
65-69	0	4	7	7	8	6	4	1	<b>37</b>
70 & up	0	0	1	2	0	0	0	0	<b>3</b>
<b>Totals</b>	<b>50</b>	<b>49</b>	<b>27</b>	<b>38</b>	<b>20</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>202</b>



**APPENDIX C – SYSTEM MEMBERSHIP INFORMATION**

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**INACTIVE VESTED MEMBERS  
as of July 1, 2015**

Age	Number of Members			Annual Benefit		
	Male	Female	Total	Male	Female	Total
30-34	0	0	0	\$ 0	\$ 0	\$ 0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	17,606	0	17,606
50-54	0	0	0	0	0	0
55-59	0	1	1	0	23,834	23,834
60-64	2	2	4	59,514	133,982	193,496
65-69	0	0	0	0	0	0
70 & up	0	0	0	0	0	0
Totals	3	3	6	\$77,120	\$157,816	\$234,936



APPENDIX C – SYSTEM MEMBERSHIP INFORMATION

RETIREES AND BENEFICIARIES  
as of July 1, 2015

Age	Number of Members				Annual Benefit			
	Retired*	Senior	Beneficiaries	Total	Retired	Senior	Beneficiaries	Total
under 55	0	0	0	0	\$ 0	\$ 0	\$ 0	\$ 0
55 to 59	2	0	2	4	171,411	0	55,866	227,277
60 to 64	7	3	3	13	478,431	258,389	179,299	916,119
65 to 69	15	19	2	36	1,062,859	1,599,079	27,611	2,689,549
70 to 74	16	14	5	35	911,533	1,109,158	264,055	2,284,746
75 to 79	12	9	8	29	637,814	731,611	311,591	1,681,016
80 to 84	19	4	8	31	889,865	293,344	316,221	1,499,430
85 to 89	10	9	10	29	367,062	557,683	354,159	1,278,904
90 to 94	4	2	4	10	114,205	122,380	52,909	289,494
95 to 99	1	1	5	7	46,474	51,294	77,508	175,276
100 & over	0	0	1	1	0	0	10,598	10,598
Totals	86	61	48	195	\$4,679,654	\$4,722,938	\$1,649,817	\$11,052,409

\* Includes disabled members.



**ADDENDUM – STATUTORY REPORTING**

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**IOWA JUDICIAL RETIREMENT SYSTEM  
CERTIFICATION**

We have prepared an actuarial valuation of the Iowa Judicial Retirement System as of July 1, 2015, for the fiscal year ending June 30, 2016. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2015.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System’s staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete, or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The results in this Addendum have been prepared for the sole purpose of providing the information required under Chapter 97 D.5 of the Iowa code. Calculations are based on the following prescribed methods:

- Actuarial cost method: Entry Age Normal
- Amortization method: Level percent of payroll
- Amortization period: 30 years, open period

All other assumptions, methodologies, and System provisions used are consistent with those used in the regular July 1, 2015 valuation for the Iowa Judicial Retirement System.

The results shown in this Addendum are not consistent with those in the regular July 1, 2015 valuation. The July 1, 2015 valuation results were determined in accordance with generally accepted actuarial principles and practices that are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying opinion and supporting recommendations of the American Academy of Actuaries. The results shown in this Addendum are not necessarily based on the methodologies adopted by the System.

We are available to answer any questions on the material contained in this report, or to provide explanations or further details as may be appropriate.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

*Patrice Beckham*  
 \_\_\_\_\_  
 Patrice A. Beckham, F.S.A.

October 2, 2015  
 \_\_\_\_\_  
 Date

*Brent A. Banister*  
 \_\_\_\_\_  
 Brent A. Banister, F.S.A.

October 2, 2015  
 \_\_\_\_\_  
 Date



IOWA JUDICIAL RETIREMENT SYSTEM
SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED METHODOLOGY

This addendum report has been prepared to present the results of a valuation of the State of Iowa Judicial Retirement System as of July 1, 2015, based on the prescribed methodology under current statutes and regulations issued there under.

The unfunded actuarial accrued liability has been amortized as a level percent of payroll over 30 years. The payroll growth assumption used was 4.25%.

A summary of principal valuation results from the current and the prior valuation follows.

Table with 3 columns: Description, July 1, 2015, and July 1, 2014. Rows include Summary of Costs (Normal cost at July 1, UAAL amortization, Total, Interest to Year End, Total Actuarially Required Contribution at Year End, Less Employee contributions with interest, State Required Contribution, Expected Payroll FYE, State Actuarially Required Contribution Rate) and Funded Status (Actuarial accrued liability, Actuarial value of assets, Unfunded actuarial accrued liability, Funded ratio) and Asset Values (Market Value of Assets, Actuarial Value of Assets).