

## **ARKANSAS JUDICIAL RETIREMENT SYSTEM**

GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS

JUNE 30, 2015



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November 17, 2015

The Board of Trustees Arkansas Judicial Retirement System Little Rock, Arkansas

Ladies and Gentlemen:

This report provides information required by the Retirement System in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Governmental Accounting Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement Nos. 67 and 68. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the System only in its entirety and only with the permission of the Retirement Board.

This report is based upon information, furnished to us by Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2015 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. Mita D. Drazilov and Heidi G. Barry are Members of the American Academy of Actuaries and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing individuals are independent of the plan sponsor.

Respectfully submitted,

Mita Drapilor

Mita D. Drazilov, ASA, MAAA

MDD/DLH:sc

Heidi & Barry

Heidi G. Barry, ASA, MAAA

Warred K. Hoffman

David L. Hoffman

# TABLE OF CONTENTS

	Page
Section A	Executive Summary
	Executive Summary1
	Discussion2-4
Section B	Financial Statements
	Statement of Pension Expense
	Statement of Outflows and Inflows Arising from Current Reporting Period
	Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods.7
	Statement of Fiduciary Net Position
	Statement of Changes in Fiduciary Net Position
Section C	Required Supplementary Information
	Schedule of Changes in Net Pension Liability and Related Ratios Current Period10
	Schedule of Changes in Net Pension Liability and Related Ratios (Multiyear)11
	Schedule of Net Pension Liability (Multiyear)
	Schedule of Contributions (Multiyear)
	Notes to Schedule of Contributions
	Schedule of investment Returns (Wultiyear)
Section D	Notes to Financial Statements
	Long-Term Expected Return on Plan Assets
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption17
	Summary of Population Statistics
Section E	Summary of Benefits
Section F	Actuarial Cost Method and Actuarial Assumptions
	Actuarial Assumptions, Input to Discount Rates, Mortality Assumptions and Experience
	Studies
	Miscellaneous and Technical Assumptions
Section G	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate
	Projection of Contributions
	Projection of Plan Fiduciary Net Position
	Present Values of Projected Benefits
	Projection of Plan Net Position and Benefit Payments
Section H	Glossary of Terms

# **SECTION A** EXECUTIVE SUMMARY

## EXECUTIVE SUMMARY AS OF JUNE 30, 2015

Actuarial Valuation Date	J	une 30, 2015
Measurement Date of the Net Pension Liability	J	une 30, 2015
Employer's Fiscal Year Ending Date (Reporting Date)	J	une 30, 2015
Membership		
Number of		
- Retirees and Beneficiaries		137
- Inactive, Nonretired Members		4
- Active Members		139
- Total		280
Covered Payroll	\$	22,308,000
Net Pension Liability		
Total Pension Liability	\$	254,713,985
Plan Fiduciary Net Position		223,123,751
Net Pension Liability	\$	31,590,234
Plan Fiduciary Net Position as a Percentage		
of Total Pension Liability		87.60%
Net Pension Liability as a Percentage		
of Covered Payroll		141.61%
Development of the Single Discount Rate		
Single Discount Rate		6.25%
Long-Term Expected Rate of Investment Return		6.25%
Long-Term Municipal Bond Rate*		3.80%
Last year ending June 30 in the 2016 to 2115 projection period		
for which projected benefit payments are fully funded		2115
Total Pension Expense	\$	15,566,343

#### Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

Defe0	erred Outflows f Resources	Deferred Inflow of Resources	s
\$	9,269,573	\$	-
	17,360,262		-
	4,509,433		-
\$	31,139,268	\$	-
	Defe o \$ \$	Sector         Sector<	Deferred Outflows of Resources         Deferred Inflow of Resources           \$ 9,269,573         \$ 17,360,262           4,509,433         \$           \$ 31,139,268         \$

\*Source: State & local bonds "rate from Federal Reserve statistical release (H.15) as of June 25, 2015. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

## DISCUSSION

#### **Accounting Standard**

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the Retirement System and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

#### **Financial Statements**

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Arkansas Judicial Retirement System subsequent to the measurement date of June 30, 2015.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

#### Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

#### **Required Supplementary Information**

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

#### Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2015 and a measurement date of June 30, 2015.

#### Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.25%; the municipal bond rate is 3.80% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 6.25%.

# **SECTION B** FINANCIAL STATEMENTS

## PENSION EXPENSE UNDER GASB STATEMENT NO. 68 FISCAL YEAR ENDED JUNE 30, 2015

#### A. Expense

10. Total Pension Expense	<b>\$</b> 1	15,566,343
9. Recognition of Outflow (Inflow) of Resources due to Assets		1,127,358
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		10,630,247
7. Other Changes in Plan Fiduciary Net Position		0
6. Pension Plan Administrative Expense		137,951
5. Projected Earnings on Plan Investments (made negative for addition here)		(15,608,614)
4. Employee Contributions (made negative for addition here)		(946,149)
3. Current-Period Benefit Changes		0
2. Interest on the Total Pension Liability		14,883,382
1. Service Cost	\$	5,342,168

## STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD FISCAL YEAR ENDED JUNE 30, 2015

#### A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience	
of the Total Pension Liability (gains) or losses	\$12,969,853
2. Assumption Changes (gains) or losses	\$24,290,229
3. Recognition period for Liabilities: Average of the	
expected remaining service lives of all employees {in years}	3.5051
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the	
difference between expected and actual experience	
of the Total Pension Liability	\$ 3,700,280
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for	
Assumption Changes	\$ 6,929,967
6. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Liabilities: 4. + 5.	\$10,630,247
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the	
difference between expected and actual experience	
of the Total Pension Liability: 1 4.	\$ 9,269,573
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for	
Assumption Changes: 2 5.	\$17,360,262
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Liabilities: 7. + 8.	\$26,629,835
B. Outflows (Inflows) of Resources due to Assets	
1. Net difference between projected and actual earnings on	
pension plan investments (gains) or losses	\$ 5,636,791
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Assets	\$ 1,127,358
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Assets: 1 3.	\$ 4,509,433

## STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS FISCAL YEAR ENDED JUNE 30, 2015

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows	In	flows	Ν	et Outflows
	 of Resources	of Re	esources	of	f Resources
1. Due to Liabilities	\$ 10,630,247	\$	0	\$	10,630,247
2. Due to Assets	 1,127,358		-		1,127,358
3. Total	\$ 11,757,605	\$	0	\$	11,757,605

#### B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows		Inflows	Ν	et Outflows
	of Resources	0	f Resources	0	f Resources
1. Differences between expected and actual experience	\$ 3,700,280	\$	0	\$	3,700,280
2. Assumption Changes	6,929,967		-		6,929,967
3. Net Difference between projected and actual					
earnings on pension plan investments	1,127,358				1,127,358
4. Total	\$ 11,757,605	\$	0	\$	11,757,605

#### C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	De	eferred Outflows of Resources	Ľ	Deferred Inflows of Resources	N 0	let Deferred Outflows f Resources
1. Differences between expected and actual experience	\$	9,269,573	\$	0	\$	9,269,573
2. Assumption Changes		17,360,262		-		17,360,262
3. Net Difference between projected and actual						
earnings on pension plan investments		4,509,433		-		4,509,433
4. Total	\$	31,139,268	\$	0	\$	31,139,268

#### D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	No of	et Deferred Outflows ?Resources
2016 2017	\$	11,757,606 11,757,606
2018 2019		6,496,698 1,127,358
2020 Thereafter	¢.	0 0 31 130 268

## STATEMENT OF FIDUCIARY NET POSITION AS OF JUNE 30, 2015

# To be provided by system

#### Assets

Cash and Deposits	
Receivables	
Accounts Receivable - Sale of Investments	
Accrued Interest and Other Dividends	
Contributions	
Accounts Receivable - Other	
Total Receivables	
Investments	
Fixed Income	
Domestic Equities	
International Equities	
Real Estate	
Other	
Total Investments	
<b>Total Assets</b>	
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	
Accrued Expenses	
Accounts Payable - Other	
<b>Total Liabilities</b>	
Net Position Restricted for Pensions	\$ 223.123.751

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED JUNE 30, 2015

#### Additions

\$	5,690,381
	946,149
	-
\$	6,636,530
\$	11,175,526
	-
	(1,203,703)
\$	9,971,823
\$	-
\$	16,608,353
\$	10,777,191
	137,951
	-
\$	10,915,142
\$	5,693,211
\$2	217,430,540
\$2	223,123,751
	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

# SECTION C REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS CURRENT PERIOD FISCAL YEAR ENDED JUNE 30, 2015

#### A. Total pension liability

1. Service Cost	\$ 5,342,168
2. Interest on the Total Pension Liability	14,883,382
3. Changes of benefit terms	0
4. Difference between expected and actual experience	
of the Total Pension Liability	12,969,853
5. Changes of assumptions	24,290,229
6. Benefit payments, including refunds	
of employee contributions	(10,777,191)
7. Net change in total pension liability	\$ 46,708,441
8. Total pension liability – beginning	208,005,544
9. Total pension liability – ending	\$ 254,713,985
<b>B.</b> Plan fiduciary net position	
1. Contributions – employer	\$ 5,690,381
2. Contributions – employee	946,149
3. Net investment income	9,971,823
4. Benefit payments, including refunds	
of employee contributions	(10,777,191)
5. Pension Plan Administrative Expense	(137,951)
6. Other	-
7. Net change in plan fiduciary net position	\$ 5,693,211
8. Plan fiduciary net position – beginning	217,430,540
9. Plan fiduciary net position – ending	\$ 223,123,751
C. Net pension liability	\$ 31,590,234
D. Plan fiduciary net position as a percentage	
of the total pension liability	87.60%
E. Covered-employee payroll	\$ 22,308,000
F. Net pension liability as a percentage	
of covered-employee payroll	141.61%

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

### Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2015	2014		
Total Pension Liability				
Service Cost	\$ 5,342,168	\$ 5,319,836		
Interest on the Total Pension Liability	14,883,382	14,607,426		
Benefit Changes	-	-		
Difference between Expected and Actual Experience	12,969,853	(5,751,106)		
Assumption Changes	24,290,229	-		
Benefit Payments	(10,762,871)	(9,966,020)		
Refunds	(14,320)	(18,836)		
Net Change in Total Pension Liability	46,708,441	4,191,300		
Total Pension Liability - Beginning	\$ 208,005,544	\$ 203,814,244		
Total Pension Liability - Ending (a)	\$ 254,713,985	\$ 208,005,544		
Plan Fiduciary Net Position				
Employer Contributions	\$ 5,690,381	\$ 6,117,327		
Employee Contributions	946,149	925,324		
Pension Plan Net Investment Income	9,971,823	29,793,113		
Benefit Payments	(10,762,871)	(9,966,020)		
Refunds	(14,320)	(18,836)		
Pension Plan Administrative Expense	(137,951)	(130,529)		
Other	_	-		
Net Change in Plan Fiduciary Net Position	\$ 5,693,211	\$ 26,720,379		
Plan Fiduciary Net Position - Beginning	\$217,430,540	\$ 190,710,161		
Plan Fiduciary Net Position - Ending (b)	\$ 223,123,751	\$ 217,430,540		
Net Pension Liability - Ending (a) - (b)	\$ 31,590,234	\$ (9,424,996)		
Plan Fiduciary Net Position as a Percentage				
of Total Pension Liability	87.60 %	104.53 %		
Covered-Employee Payroll	\$ 22,308,000	\$ 19,781,628		
Net Pension Liability as a Percentage				
of Covered-Employee Payroll	141.61 %	(47.65)%		
Notes to Schedule:				
N/A				

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF THE NET PENSION LIABILITY

## Ultimately 10 Fiscal Years will be Displayed

Total				Plan Net Position				Net Pension Liability	
FY Ending		Pension Lightliter		Plan Net	Net Pensi	ion	as a % of Total	Covered	as a % of
June 30,				Position		/	Pension Liability	rayroll	Covered Payroll
2014	\$	208,005,544	\$	217,430,540	\$ (9,424,9	96)	104.53%	\$ 19,781,628	(47.65)%
2015		254,713,985		223,123,751	31,590,2	34	87.60%	22,308,000	141.61%

## SCHEDULE OF CONTRIBUTIONS

## Last 10 Fiscal Years

	Actuarially		Contribution		Actual Contribution
FY Ending	Determined	Actual	Deficiency	Covered	as a % of
June 30,	Contribution	Contribution	(Excess)	Payroll	Covered Payroll*
2006	\$4,904,699	\$4,904,699	\$-	\$ 17,009,056	29.46%
2007	5,182,016	5,182,016	-	17,333,983	30.44%
2008	5,144,958	5,144,958	-	18,074,314	29.36%
2009	4,466,571	4,466,571	-	18,874,986	24.20%
2010	4,667,612	4,667,612	-	18,629,861	24.59%
2011	5,220,623	5,220,623	-	19,337,991	27.43%
2012	5,465,079	5,465,079	-	19,201,734	29.08%
2013	5,672,291	5,672,291	-	19,585,755	29.93%
2014	6,117,327	6,117,327	-	19,781,628	31.46%
2015	5,690,381	5,690,381	-	22,308,000	29.12%

\* Actual contributions are based on covered payroll at the time of the contribution. This payroll is not reported to the actuary. The covered payroll shown on this page is the valuation payroll.

## NOTES TO SCHEDULE OF CONTRIBUTIONS

#### Valuation Date: June 30, 2015

#### Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	28 years
Asset Valuation Method	4-Year smoothed market; 25% corridor
Inflation	2.50% price inflation
Salary Increases	3.25%
Investment Rate of Return	6.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 mortality tables projected to 2020 using projection scale BB.
Other Information:	
Notes	There were no benefit changes during the year. An Investment Rate of Return assumption of 6.25% and a Salary Increase assumption of 3.25% were first used in the June 30, 2015 valuation.

## SCHEDULE OF INVESTMENT RETURNS MULTIYEAR

# To be provided by system

Last 10 Fiscal Years

FY Ending	Annual
June 30,	<b>Return</b> <sup>1</sup>
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.

# **SECTION D** NOTES TO FINANCIAL STATEMENTS

#### Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2015 to 2024 were based upon capital market assumptions provided by plan's investment consultant(s). For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2015, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	6.82%
International Equity	15%	6.88%
Real Estate	8%	5.04%
Cash Equivalents	0%	0.02%
Domestic Fixed	40%	0.83%
Total	100%	-
Total Real Rate of Return		4.29%
Plus: Price Inflation - Actuary	's Assumption	2.50%
Less: Investment Expenses (P	assive)	0.10%
Net Expected Return		6.69%

#### **Single Discount Rate**

A single discount rate of 6.25% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 6.25%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 6.25%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

#### SENSITIVITY OF NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

	Current Single				
	1% Decrease	Ra	te Assumption	1% Increase	
	5.25%		6.25%	7.25%	
Total Pension Liability (TPL)	\$284,115,868	\$	254,713,985	\$229,777,104	
Net Position Restricted for Pensions	223,123,751		223,123,751	223,123,751	
Net Pension Liability (NPL)	\$ 60,992,117	\$	31,590,234	\$ 6,653,353	

## SUMMARY OF POPULATION STATISTICS AS OF JUNE 30, 2015

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	137
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	4
Active Plan Members	139
Total Plan Members	280

# **SECTION E** SUMMARY OF BENEFITS

## SUMMARY OF PROVISIONS CONSIDERED (JULY 1, 2015)

**Tier One** 

#### **Tier Two**

#### Description

Elected or appointed prior to the effective date of Act 399 of 1999 and who do not elect to participate in Tier Two.

Elected or appointed after the effective date of Act 399 of 1999 or elected to participate in Tier Two.

#### **Regular Retirement**

An active member may retire at age 65 with 10 or more years of credited service, or after 20 years of credited service regardless of age. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals. An active member or former member may retire at age 65 with 8 or more years of credited service, or after 20 years of credited service regardless of age.

#### **Compulsory Retirement**

Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits. Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.

#### Final Salary

The annual salary for the last judicial office held.

The annual salary for the last judicial office held.

#### Age & Service Annuity

60% of the judge's final salary, for life.

Each year of additional service after twenty (20) years of judicial service, the benefit shall be increased by two and one-half percent (2.5%) with a maximum benefit payable of seventy-five percent (75%) of the judge's final salary.

3.2% of the salary of the last judicial office held multiplied by the number of years of service not to exceed 80% of the salary of the last judicial office held.

## SUMMARY OF PROVISIONS CONSIDERED (CONTINUED)

**Deferred Retirement** 

#### Tier One

An inactive member who has 14 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity. The 3 years of service is not required for persons who were members before July 1, 1983.

A member who became a member before July 1, 1983 and who has 18 but less than 20 years credited service may retire, regardless of age, and receive an immediate annuity. The amount is the full age and service amount reduced proportionately for service less than 20 years.

A member with 14 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month that retirement age is younger than age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit Court or Chancery Courts or the Court of Appeals.

# An inactive member who has 8 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65.

**Tier Two** 

#### Disability Retirement

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity, except that the benefit shall not be less than 25.6% of final salary.

#### Early Retirement

A member with 8 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month retirement age is younger than age 65.

#### 20

## SUMMARY OF PROVISIONS CONSIDERED (CONCLUDED)

#### Tier One

#### Tier Two

Upon the death of a member with 3 or more years

#### Survivor Benefits

Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of 67% of the judge's benefit is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

of service, before or after retirement, an annuity of 67% of the judge's benefit, but not less than 17.152% of final salary, is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

#### **Increases After Retirement**

For any person who was a member on or before June 30, 1983, the retirement benefits are increased or decreased from time to time as the salary for the particular judicial office is increased or decreased. For all judges or justices first elected after June 30, 1983, and who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

For all judges or justices who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

#### Member Contributions

Active members contribute 6% of their salaries. Members with 20 or more years of service and members age 65 or older with 10 or more years of service do not contribute to the Retirement System. At any time a member is accruing the additional 2.5% of final salary benefit, member contributions would be required. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded. Active members contribute 5% of their salaries. Members with 25 or more years of service do not contribute to the Retirement System. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

# **SECTION F** ACTUARIAL ASSUMPTIONS

## SUMMARY OF ASSUMPTIONS USED FOR ARKANSAS JUDICIAL ACTUARIAL VALUATIONS ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER CONSULTING WITH THE ACTUARY

The actuarial assumptions used in the valuation are shown in this Section. Assumptions were established based upon an Experience Study covering the period July 1, 2006 through June 30, 2011 (please see report dated April 30, 2012) and updated in conjunction with an Economic Assumption Review dated August 6, 2015. The actuarial assumptions represent estimates of future experience.

#### **Economic Assumptions**

*The investment return rate* used in making the valuation was 6.25% per year, compounded annually (net after investment expenses). The investment return assumption was revised for the June 30, 2015 valuation.

*Pay increase assumptions* for individual active members are shown on page 24. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. This wage inflation assumption consists of 2.50% for price inflation and 0.75% for real wage growth. The wage inflation assumption was revised for the June 30, 2015 valuation.

*Total active member payroll* is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions recognizing inflation.

The number of active members is assumed to continue at the present number.

#### **Non-Economic Assumptions**

*The mortality tables* used to measure retired life mortality were the RP-2000 mortality tables projected to 2020 using projection scale BB. Related values are shown on page 26. The mortality rates used in evaluating disability allowances were the RP-2000 Combined Healthy mortality tables, set forward 10 years for males and set forward 10 years for females. Related values are shown on page 26. Based upon the experience observed in the most recent experience study for APERS, it appears that, at the time of the study, the current table provides for approximately 8 years of future mortality improvement. Adopted 2012.

(Concluded on the following page.)

## SUMMARY OF ASSUMPTIONS USED FOR ARKANSAS JUDICIAL ACTUARIAL VALUATIONS ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER CONSULTING WITH THE ACTUARY (CONCLUDED)

*The probabilities of retirement* for members eligible to retire are shown on page 25. Adopted 2012.

*The probabilities of withdrawal* from service, death-in-service and disability are shown for sample ages on page 24. Adopted 2012.

*Normal Cost.* Normal Cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics.

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The normal cost, the present value of future normal cost and the present value of benefits are based on the benefit levels available to each member. The accrued liability is the difference between the present value of benefits and the present value of future normal cost.

Funding value of assets (cash & investments) was determined by phasing-in differences between actual market return and the assumed rate of return over a four-year period.

*The data about persons now covered and about present assets* was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

## DECREMENT AND PAY INCREASE ASSUMPTIONS FOR ACTIVE MEMBERS JUNE 30, 2015

				Doroont	.f					
			Active Members Separating					Pay Increase Assumptions		
			Wit	hin the Nex	kt Year		for I	ndividual Me	mber	
Sample	Years of	Μ	ale	Fer	nale		Merit &	Base	Increase	
Ages	Service	Death	Disability	Death	Disability	Withdrawal	Seniority	(Economic)	Next Year	
	0					10.00%				
	1					6.00%				
	2					4.20%				
	3					3.36%				
	4					3.02%				
30	5+	0.02%	0.04%	0.01%	0.05%	0.85%	0.00%	3.25%	3.25%	
35		0.04%	0.04%	0.02%	0.05%	0.85%	0.00%	3.25%	3.25%	
40		0.05%	0.10%	0.03%	0.18%	0.85%	0.00%	3.25%	3.25%	
45		0.07%	0.13%	0.05%	0.20%	0.85%	0.00%	3.25%	3.25%	
50		0.10%	0.25%	0.08%	0.28%	0.85%	0.00%	3.25%	3.25%	
55		0.17%	0.45%	0.12%	0.38%	0.85%	0.00%	3.25%	3.25%	
60		0.29%	0.71%	0.21%	0.51%	0.85%	0.00%	3.25%	3.25%	
65		0.50%	0.83%	0.38%	0.62%	0.85%	0.00%	3.25%	3.25%	

The pay increase assumptions are age based only, and not service based.

## PROBABILITIES OF RETIREMENT FOR MEMBERS ELIGIBLE TO RETIRE JUNE 30, 2015

		Percent of Eligible
	Percent of Eligible	Active Members Electing
Retirement	Active Members Retiring	Early Retirement
Ages	Within Next Year	Within Next Year
50	4%	
51	4%	
52	6%	
53	6%	
54	8%	
55	10%	
56	10%	
57	12%	
58	12%	
59	12%	
60	14%	
61	14%	
62	20%	2%
63	20%	2%
64	20%	2%
65-69	24%	
70-74	30%	
75 & Over	100%	

For Tier One, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 10 years of service. A member was assumed eligible to retire early at age 62 with 14 years of service.

For Tier Two, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 8 years of service. A member was assumed eligible to retire early at age 62 with 8 years of service.

Sample	Present \$1 Month	Value of ly for Life	Present Value of \$1 Monthly for Life Increasing 3% Annually		Futu Expectar	re Life acy (Years)
Ages	Men	Women	Men	Women	Men	Women
50	\$164.26	\$168.65	\$239.67	\$250.44	32.99	35.59
55	154.63	160.07	218.09	230.04	28.37	30.90
60	143.02	149.36	194.61	207.34	23.94	26.34
65	129.36	136.56	169.59	182.83	19.74	21.98
70	113.67	121.98	143.44	157.39	15.83	17.93
75	96.28	105.90	116.96	131.66	12.26	14.25
80	78.11	88.66	91.43	106.26	9.13	10.95

## SINGLE LIFE RETIREMENT VALUES JUNE 30, 2015

Sample Attained	\$100 Benefit	Portion of Age 65 Lives Still Alive		
Ages	Increasing 3% Annually	Men	Women	
65	\$100.00	100%	100%	
70	115.93	94%	95%	
75	134.39	85%	88%	
80	155.80	71%	76%	
85	180.61	52%	61%	

## SUMMARY OF ASSUMPTIONS USED JUNE 30, 2015 MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption:	80% of males and 80% of females are assumed to be married for purposes of death-in-service benefits. 80% of members are assumed to be married at retirement. Male spouses are assumed to be six years older than female spouses for active member valuation purposes. Actual data is used for retired valuation purposes.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the 67% joint and survivor benefit.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent-of-payroll shown in this report, and the actual payroll payable at the time contributions are made.
Tier 1 2.5% Benefit Multiplier Election:	For present value of future benefit purposes, it was assumed that all Tier 1 members will elect to accrue the additional 2.5% benefit multiplier (if they have not already done so). Member contribution rates are based upon those members that have elected to accrue the additional 2.5% benefit multiplier as of the valuation date.
Administrative Expenses:	The computed contribution rate was increased by 0.7% of payroll to fund for administrative expenses.

**SECTION G** CALCULATION OF THE SINGLE DISCOUNT RATE

## CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a "risk-free" rate is required, as described in the following paragraph.

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.25%; the municipal bond rate is 3.80%; and the resulting single discount rate is 6.25%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

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## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS

	Contributions	Normal Cost		
	from Current	and Expense	UAL	Total
Year	Employees	Contributions	Contributions	Contributions
0				
1	\$ 1,006,457	\$ 6,375,589	\$ 2,071,690	\$ 9,453,735
2	893,906	5,802,099	1,802,433	8,498,439
3	821,630	5,254,429	1,675,148	7,751,206
4	758.867	4,729,710	1.808.920	7.297.497
5	683.691	4.252.514	1.867.710	6.803.915
6	622,362	3.816.195	1.928.411	6,366,968
7	566.309	3,430,182	1.991.084	5.987.575
8	514.626	3.074.845	2.055.794	5.645.265
9	464,723	2,746,432	2,122,607	5,333,762
10	411.912	2.478.306	2,191,592	5.081.810
11	371,107	2.222.967	2.262.819	4.856.892
12	334,376	1.967.497	2,336,360	4.638.233
13	285.726	1.745.890	2.412.292	4.443.908
14	255,206	1,540,358	2.490.692	4,286,255
15	225.897	1.364.173	2.571.639	4,161,709
16	196.616	1.203.047	2.655.217	4.054.880
17	167.901	1.047.613	2.741.512	3.957.026
18	143 916	897 913	2,830,611	3 872 440
19	95 915	789 305	2,922,606	3 807 826
20	76 101	666 143	3 017 591	3 759 835
21	57 550	555 253	3 115 662	3 728 465
21	48.005	453 440	3 216 921	3 718 367
22	27 801	379 545	3 321 471	3 728 817
23	27,301	306 992	3 429 419	3 758 720
24	1 804	263.067	3,429,419	3,738,720
25	1,094	203,907	3,540,875	3,800,730
20	-	168 020	3,033,934	2 042 811
27	-	108,039	3,774,772	3,942,811
20	-	07.160	5,697,452	4,027,004
29	-	97,109 70.166	-	70,166
21	-	70,100	-	70,100
22	-	27 800	-	27,800
22	-	37,809	-	37,809
33 34	-	20,943	-	20,943
25	-	13 286	-	12 286
35	-	8 080	-	8 080
30	-	5,980	-	5,980
20	-	3,002	-	J,002
20	-	4,101	-	4,181
39	-	2,019	-	2,019
40	-	892	-	892
41	-	-	-	-
42 12	-	-	-	-
43 14	-	-	-	-
44	-	-	-	-
45 47	-	-	-	-
40 47	-	-	-	-
4/	-	-	-	-
48	-	-	-	-
49 50	-	-	-	-
50	-	-	-	-

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION

	<b>D</b> • • • 1								Projected		
	Projected	1			Projected		Projected		Investment		
	Beginning Plan		inning Plan Projected Total		Benefit	A	dministrative		Earnings at	Projected Ending Plan	í.
Year	Net Positio	on	Contributions		Payments		Expenses		6.25%	Net Position	
	(a)		(b)		(c)		(d)		(e)	(f)=(a)+(b)-(c)-(d)+(e)	
1	\$ 223,123	3,751	\$ 9,453,735	\$	12,384,308	\$	151,779	\$	13,850,371	\$ 233,891,770	)
2	233,891	,770	8,498,439		13,754,998		138,120		14,452,207	242,949,298	3
3	242,949	9,298	7,751,206		14,983,080		125,773		14,957,889	250,549,540	)
4	250,549	9,540	7,297,497		16,223,619		114,075		15,381,121	256,890,464	1
5	256,890	),464	6,803,915		17,383,967		102,967		15,726,869	261,934,315	5
6	261,934	4,315	6,366,968		18,451,337		92,918		15,996,122	265,753,150	)
7	265,753	3,150	5,987,575		19,351,183		84,012		16,195,702	268,501,232	2
8	268,501	,232	5,645,265		20,182,817		75,721		16,331,583	270,219,543	3
9	270,219	9,543	5,333,762		20,947,060		67,981		16,406,108	270,944,37	1
10	270,944	1,371	5,081,810		21,594,257		61,403		16,423,940	270,794,462	2
11	270,794	1,462	4,856,892		22,178,708		55,273		16,389,850	269,807,223	3
12	269,807	,223	4,638,233		22,722,439		49,192		16,304,871	267,978,690	5
13	267,978	8,696	4,443,908		23,219,109		43,554		16,169,495	265,329,435	5
14	265,329	9,435	4,286,255		23,603,724		38,609		15,987,379	261,960,73	7
15	261,960	),737	4,161,709		23,934,406		34,269		15,762,959	257,916,729	)
16	257,916	5,729	4,054,880		24,161,113		30,230		15,500,068	253,280,334	1
17	253,280	),334	3,957,026		24,321,869		26,320		15,202,454	248,091,624	1
18	248,091	,624	3,872,440		24,415,244		22,620		14,872,797	242,398,997	7
19	242,398	3,997	3,807,826		24,438,019		19,278		14,514,421	236,263,940	5
20	236,263	3,946	3,759,835		24,390,970		16,213		14,131,045	229,747,64	1
21	229,747	,644	3,728,465		24,250,508		13,420		13,727,220	222,939,40	1
22	222,939	,401	3,718,367		24,011,405		11,013		13,308,827	215,944,178	3
23	215,944	1,178	3,728,817		23,686,740		8,971		12,882,002	208,859,286	5
24	208,859	9,286	3,758,720		23,272,618		7,268		12,452,914	201,791,034	1
25	201,791	,034	3,806,736		22,769,951		5,880		12,028,139	194,850,078	3
26	194,850	0,078	3,869,337		22,197,975		4,729		11,613,895	188,130,600	5
27	188,130	),606	3,942,811		21,568,558		3,735		11,215,591	181,716,714	4
28	181,716	5,714	4,027,004		20,884,428		2,885		10,838,395	175,694,800	0
29	175,694	1,800	97,169		20,161,629		2,170		10,363,346	165,991,510	5
30	165,991	,516	70,166		19,410,407		1,574		9,779,198	156,428,899	Ð
31	156,428	3,899	51,451		18,621,178		1,157		9,205,261	147,063,27	7
32	147,063	3,277	37,809		17,806,501		853		8,644,572	137,938,303	3
33	137,938	3,303	26,945		16,984,442		609		8,099,234	129,079,432	2
34	129,079	,432	18,814		16,160,797		425		7,570,659	120,507,683	3
35	120,507	,683	13,286		15,340,699		300		7,059,998	112,239,968	3
36	112,239	9,968	8,980		14,531,284		204		6,568,047	104,285,508	3
37	104,285	5,508	5,882		13,735,553		134		6,095,290	96,650,992	2
38	96,650	),992	4,181		12,955,419		95		5,642,092	89,341,75	1
39	89.341	.751	2.619		12,195,625		60		5,208,601	82.357.280	б
40	82,357	.286	892		11.458.198		21		4,794,715	75.694.674	4
41	75.694	1.674	-		10.741.263		-		4,400,340	69.353.750	)
42	69.353	3.750	-		10.044.658		-		4.025.471	63,334,563	3
43	63.334	1.563	-		9.370.093		-		3.670.032	57.634.50	3
44	57.634	1,503	-		8,717.022		-		3,333.878	52.251.358	3
45	52.251	.358	-		8,084,989		-		3,016,883	47.183 252	2
46	47.183	3.252	-		7,473,755		-		2,718,938	42.428 43	5
47	42.428	3,435	-		6.883 749		-		2.439 920	37 984 600	б
48	37.984	1.606	-		6.315.575		-		2,179.667	33,848,698	3
49	33.848	3.698	-		5,770.107		-		1,937,960	30.016 55	Í
50	30.016	5.551	-		5.248 471		-		1.714 505	26,482,586	5
	20,010	,			-,,				-, ,	20,102,000	

## SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	(h)=((c)/(1+sdr)^(a5)
1	\$ 223,123,751	\$ 12,384,308	\$ 12,384,308	\$ -	\$ 12,014,543	\$ -	\$ 12,014,543
2	233,891,770	13,754,998	13,754,998	-	12,559,349	-	12,559,349
3	242,949,298	14,983,080	14,983,080	-	12,875,934	-	12,875,934
4	250,549,540	16,223,619	16,223,619	-	13,121,892	-	13,121,892
5	256,890,464	17,383,967	17,383,967	-	13,233,315	-	13,233,315
6	261,934,315	18,451,337	18,451,337	-	13,219,611	-	13,219,611
7	265,753,150	19,351,183	19,351,183	-	13,048,765	-	13,048,765
8	268,501,232	20,182,817	20,182,817	-	12,808,986	-	12,808,986
9	270,219,543	20,947,060	20,947,060	-	12,512,011	-	12,512,011
10	270,944,371	21,594,257	21,594,257	-	12,139,850	-	12,139,850
11	270,794,462	22,178,708	22,178,708	-	11,734,981	-	11,734,981
12	269,807,223	22,722,439	22,722,439	-	11,315,458	-	11,315,458
13	267,978,696	23,219,109	23,219,109	-	10,882,629	-	10,882,629
14	265,329,435	23,603,724	23,603,724	-	10,412,137	-	10,412,137
15	261,960,737	23,934,406	23,934,406	-	9,936,949	-	9,936,949
16	257,916,729	24.161.113	24.161.113	-	9.441.008	-	9.441.008
17	253,280,334	24.321.869	24.321.869	-	8,944,776	-	8,944,776
18	248.091.624	24.415.244	24.415.244	-	8.450.933	-	8.450.933
19	242,398,997	24 438 019	24 438 019	-	7 961 239	-	7 961 239
20	236 263 946	24 390 970	24 390 970	-	7 478 505	-	7 478 505
21	229 747 644	24 250 508	24 250 508	-	6 998 059	-	6 998 059
22	222,939,401	24.011.405	24.011.405	-	6 521 468		6 521 468
22	215 944 178	23,686,740	23,686,740	_	6 054 861		6 054 861
23	213,544,176	23,000,740	23,000,740	_	5 599 061	_	5 599 061
24	200,000,200	22,272,010	22,272,010	_	5 155 884	_	5 155 884
25	194 850 078	22,709,931	22,709,931	_	4 730 700	_	4 730 700
20	188 130 606	21,568,558	21 568 558	_	4,736,760	_	4,736,700
27	181 716 714	21,300,330	21,300,330	_	3 942 546		3 942 546
20	175 694 800	20,004,420	20,004,420	_	3 582 209		3 582 209
30	165 991 516	19/10/07	19/10/07	_	3 245 869		3 245 869
31	156 428 899	19,410,407	19,410,407	-	2 930 721	-	2 930 721
22	147.062.277	17 806 501	17 806 501	-	2,930,721	-	2,930,721
32	147,003,277	16 084 442	16 084 442	-	2,037,049	-	2,037,049
24	137,938,503	16,160,707	16,160,707	-	2,507,660	-	2,507,680
25	129,079,432	15 240 600	15 240 600	-	2,120,525	-	2,120,525
35	112,007,083	14 521 284	14 521 284	-	1,694,309	-	1,694,309
27	104 295 509	12,725,552	12,725,552	-	1,000,900	-	1,000,900
20	104,285,508	12,055,410	12,055,410	-	1,302,388	-	1,302,388
30 20	90,030,992	12,955,419	12,955,419	-	1,555,678	-	1,555,676
39	89,341,731	11,195,025	11, 159, 109	-	1,181,789	-	1,161,769
40	82,537,280	10,741,262	10,741,262	-	1,045,017	-	1,045,017
41	/5,694,674	10,741,203	10,741,203	-	922,005	-	922,005
42	69,555,750	0,044,038	0,044,038	-	811,492	-	811,492
45	63,334,303	9,570,095	9,570,095	-	/12,400	-	/12,400
44	57,634,503	8,717,022	8,717,022	-	623,820	-	623,820
45	52,251,358	8,084,989	8,084,989	-	544,555	-	544,555
46	47,183,252	7,473,755	7,473,755	-	473,775	-	473,775
47	42,428,435	6,883,749	6,883,749	-	410,704	-	410,704
48	37,984,606	6,315,575	6,315,575	-	354,641	-	354,641
49	33,848,698	5,770,107	5,770,107	-	304,951	-	304,951
50	30,016,551	5,248,471	5,248,471	-	261,066	-	261,066

## SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Pavments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	$(h)=((c)/(1+sdr)^{(a5)})$
51	\$ 26,482,586	\$ 4,751,821	\$ 4,751,821	\$ -	\$ 222,458	\$ -	\$ 222,458
52	23,239,682	4,281,138	4,281,138	-	188,634	-	188,634
53	20,279,267	3,837,344	3,837,344	-	159,133	-	159,133
54	17,591,277	3,420,907	3,420,907	-	133,519	-	133,519
55	15,164,542	3,031,968	3,031,968	-	111,378	-	111,378
56	12,987,044	2,670,594	2,670,594	-	92,332	-	92,332
57	11,045,949	2,336,953	2,336,953	-	76,044	-	76,044
58	9,327,445	2,031,203	2,031,203	-	62,207	-	62,207
59	7,816,694	1,753,088	1,753,088	-	50,531	-	50,531
60	6,498,196	1,501,893	1,501,893	-	40,744	-	40,744
61	5,356,217	1,276,486	1,276,486	-	32,592	-	32,592
62	4,375,210	1.075.541	1.075.541	-	25,846	-	25.846
63	3,540,017	897,866	897.866	-	20,307	-	20,307
64	2,835,770	742,227	742,227	-	15,800	-	15,800
65	2,247,935	607,138	607,138	-	12,164	-	12,164
66	1,762,607	490,967	490,967	-	9,258	-	9,258
67	1,366,693	392,153	392,153	-	6,960	-	6,960
68	1.047.889	309,200	309.200	-	5,165	-	5,165
69	794,666	240,708	240,708	-	3,784	-	3,784
70	596,217	185,201	185,201	-	2,740	-	2,740
71	442,579	140,994	140,994	-	1,963	-	1.963
72	324,908	106.257	106.257	-	1,393	-	1,393
73	235.687	79.262	79.262	-	978	-	978
74	168,716	58,418	58.418	-	678	-	678
75	119,045	42,459	42,459	-	464	-	464
76	82,719	30,390	30,390	-	313	-	313
77	56,564	21,387	21.387	-	207	-	207
78	38,054	14,787	14,787	-	135	-	135
79	25,190	10,054	10,054	-	86	-	86
80	16,401	6,717	6,717	-	54	-	54
81	10,502	4,400	4,400	-	33	-	33
82	6,623	2,838	2,838	-	20	-	20
83	4,112	1,806	1,806	-	12	-	12
84	2,507	1,122	1,122	-	7	-	7
85	1,507	686	686	-	4	-	4
86	894	409	409	-	2	-	2
87	528	252	252	-	1	-	1
88	301	156	156	-	1	-	1
89	159	96	96	-	-	-	-
90	70	54	54	-	-	-	-
91	18	18	18	-	-	-	-
92	1	1	1	-	-	-	-
93	-	-	-	-	-	-	-
94	-	-	-	-	-	-	-
95	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-
97	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-
99	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-
				Totals	\$ 299,650,677	\$-	\$ 299,650,677



# **SECTION H** GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple- Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:
	<ol> <li>The benefit payments to be made while the pension plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li> <li>The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li> </ol>

Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post- employment benefits do not include termination benefits.				
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.				
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.				
Total Pension Expense	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:				
	<ol> <li>Service Cost</li> <li>Interest on the Total Pension Liability</li> <li>Current-Period Benefit Changes</li> <li>Employee Contributions (made negative for addition here)</li> <li>Projected Earnings on Plan Investments (made negative for addition here)</li> <li>Pension Plan Administrative Expense</li> <li>Other Changes in Plan Fiduciary Net Position</li> <li>Recognition of Outflow (Inflow) of Resources due to Liabilities</li> <li>Recognition of Outflow (Inflow) of Resources due to Assets</li> </ol>				
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.				
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.				
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.				