

**ARKANSAS STATE POLICE RETIREMENT SYSTEM**

**GASB STATEMENT NO. 67 PLAN REPORTING AND  
ACCOUNTING SCHEDULES**

**JUNE 30, 2014**

December 2, 2014

The Board of Trustees  
Arkansas State Police 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."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 67. These calculations have been made on a basis that is consistent with our understanding of this accounting standard.

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 No. 67. 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 No. 67 may produce significantly different results. This report may be provided to parties other than System only in its entirety and only with the permission of the Retirement Board.

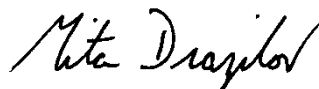
This report is based upon information, furnished to us by Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information 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, 2014 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 is a Member of the American Academy of Actuaries and meets the Qualification Standards of the Academy of Actuaries to render the actuarial opinion herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



Mita D. Drazilov, ASA, MAAA



David L. Hoffman

MDD/DLH:mrb

## TABLE OF CONTENTS

		<u>Page</u>
<b>Section A</b>	Executive Summary	
	Executive Summary .....	1
	Discussion .....	2-4
<b>Section B</b>	Financial Statements	
	Statement of Fiduciary Net Position .....	5
	Statement of Changes in Fiduciary Net Position .....	6
<b>Section C</b>	Required Supplementary Information	
	Schedule of Changes in Net Pension Liability and Related Ratios Multiyear.....	7
	Schedule of Net Pension Liability Multiyear.....	8
	Schedule of Contributions Multiyear .....	9
	Notes to Schedule of Contributions .....	10
	Schedule of Investment Returns Multiyear.....	11
<b>Section D</b>	Notes to Financial Statements	
	Asset Allocation.....	12
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption.....	13
	Reconciliation of DROP Accounts .....	14
	Summary of Population Statistics .....	15
<b>Section E</b>	Summary of Benefits .....	16-19
<b>Section F</b>	Actuarial Assumptions	
	Actuarial Assumptions, Input to Discount Rates, Mortality Assumptions and Experience Studies.....	20-24
	Miscellaneous and Technical Assumptions .....	25
<b>Section G</b>	Calculation of the Single Discount Rate	
	Calculation of the Single Discount Rate .....	26
	Projection of Contributions.....	27
	Projection of Plan Fiduciary Net Position.....	28
	Present Values of Projected Benefits .....	29-30
	Projection of Plan Net Position and Benefit Payments .....	31
<b>Section H</b>	Glossary of Terms.....	32-35

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**SECTION A**  
EXECUTIVE SUMMARY

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**EXECUTIVE SUMMARY  
AS OF JUNE 30, 2014**

	<b>2014</b>
Actuarial Valuation Date	June 30, 2014
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	June 30, 2014
 <b>Membership</b>	
Number of	
- Retirees and Beneficiaries	666
- Inactive, Nonretired Members	69
- Active Members	471
- Total	1,206
Covered Payroll	\$ 28,548,873
 <b>Net Pension Liability</b>	
Total Pension Liability	\$ 385,645,392
Plan Fiduciary Net Position	277,201,968
Net Pension Liability	\$ 108,443,424
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	71.88%
Net Pension Liability as a Percentage of Covered Payroll	379.85%
 <b>Development of the Single Discount Rate</b>	
Single Discount Rate	7.75%
Long-Term Expected Rate of Return	7.75%
Long-Term Municipal Bond Rate*	4.29%
Last year ending June 30 in the 2015 to 2114 projection period for which projected benefit payments are fully funded	2114

*\*Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June, 2014 (i.e., the weekly rate closest to but not later than the Measurement Date).*

## DISCUSSION

### Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, “Financial Reporting for Pension Plans,” replaces the requirements of GASB Statement No. 25, “Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and GASB Statement No. 50, “Pension Disclosures.” GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. 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 your internal staff will be responsible for preparing that information to comply with this accounting standard.

### Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the pension plan’s reporting period, such as:

- assets;
- deferred inflows and outflows of resources;
- liabilities; and
- fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan’s reporting period:

- additions, such as contributions and investment income;
- deductions, such as benefit payments and expenses; and
- net increase or decrease in the fiduciary net position (the difference between additions and deductions).

## Notes to Financial Statements

GASB Statement No. 67 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information should include:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- a description of how fair value is determined;
- concentrations of investments greater than or equal to 5%;
- annual money-weighted rate of return on pension plan investments;
- the portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- the pension plan's fiduciary net position;
- the net pension liability;
- the pension plan's fiduciary net position as a percentage of the total pension liability;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates;
- certain information about mortality assumptions and the dates of experience studies; and
- a description of the terms of the plan's deferred retirement option program (DROP) and the total DROP balance for those members currently participating in the DROP.

## 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;
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- the annual money-weighted rate of return on pension plan investments for each year.

The tables will be built prospectively as the information becomes available.

**Measurement of the Net Pension Liability**

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be 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).

**Timing of the Valuation**

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2014 and a measurement date of June 30, 2014.

**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 7.75%; the municipal bond rate is 4.29% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve); and the resulting single discount rate is 7.75%.

**Effective Date and Transition**

GASB Statement No. 67 is effective for a pension plan's fiscal years beginning after June 15, 2013; this corresponds to the fiscal year ending June 30, 2014.



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**SECTION B**

FINANCIAL STATEMENTS

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**STATEMENT OF FIDUCIARY NET POSITION  
AS OF JUNE 30, 2014**

**To be provided by System**

	<b>2014</b>
<b>Assets</b>	
Cash and Deposits	
Receivables	
Accounts Receivable - Sale of Investments	\$ -
Accrued Interest and Other Dividends	-
Contributions	-
Accounts Receivable - Other	-
<b>Total Receivables</b>	<b>\$ -</b>
Investments	
Fixed Income	\$ -
Domestic Equities	-
International Equities	-
Real Estate	-
Other	-
<b>Total Investments</b>	<b>\$ -</b>
<b>Total Assets</b>	<b>\$ -</b>
<b>Liabilities</b>	
Payables	
Accounts Payable - Purchase of Investments	\$ -
Accrued Expenses	-
Accounts Payable - Other	-
<b>Total Liabilities</b>	<b>\$ -</b>
<b>Net Position Restricted for Pensions</b>	<b>\$ 277,201,968</b>

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR YEAR ENDED JUNE 30, 2014**

	<b>2014</b>
<b>Additions</b>	
Contributions	
Employer	\$ 19,501,684
Employee	-
Other	-
<b>Total Contributions</b>	<b>\$ 19,501,684</b>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 44,309,932
Interest and Dividends	-
Less Investment Expense	(1,002,186)
<b>Net Investment Income</b>	<b>\$ 43,307,746</b>
Other	\$ -
<b>Total Additions</b>	<b>\$ 62,809,430</b>
 <b>Deductions</b>	
Benefit payments, including refunds of employee contributions	\$ 21,688,239
Pension Plan Administrative Expense	189,658
Other	-
<b>Total Deductions</b>	<b>\$ 21,877,897</b>
<b>Net Increase in Net Position</b>	<b>\$ 40,931,533</b>
 <b>Net Position Restricted for Pensions</b>	
Beginning of Year	\$ 236,270,435
End of Year	<b>\$ 277,201,968</b>

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**SECTION C**

REQUIRED SUPPLEMENTARY INFORMATION

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**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,	<u>2014</u>
<b>Total Pension Liability</b>	
Service Cost	\$ 4,866,199
Interest on the Total Pension Liability	28,558,511
Benefit Changes	-
Difference between Expected and Actual Experience	(454,349)
Assumption Changes	8,970,858
Benefit Payments	(21,688,239)
Refunds	-
<b>Net Change in Total Pension Liability</b>	<u>20,252,980</u>
<b>Total Pension Liability - Beginning</b>	<u>365,392,412</u>
<b>Total Pension Liability - Ending (a)</b>	<u><u>\$ 385,645,392</u></u>
<b>Plan Fiduciary Net Position</b>	
Employer Contributions	\$ 19,501,684
Employee Contributions	-
Pension Plan Net Investment Income	43,307,746
Benefit Payments	(21,688,239)
Refunds	-
Pension Plan Administrative Expense	(189,658)
Other	-
<b>Net Change in Plan Fiduciary Net Position</b>	<u>40,931,533</u>
<b>Plan Fiduciary Net Position - Beginning</b>	<u>236,270,435</u>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u><u>\$ 277,201,968</u></u>
<b>Net Pension Liability - Ending (a) - (b)</b>	108,443,424
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	71.88 %
<b>Covered Employee Payroll</b>	\$ 28,548,873
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	379.85 %
<b>Notes to Schedule:</b>	
N/A	

**SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF THE NET PENSION LIABILITY**  
**ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED**

<b>FY Ending June 30,</b>	<b>Total Pension Liability</b>	<b>Plan Net Position</b>	<b>Net Pension Liability</b>	<b>Plan Net Position as a % of Total Pension Liability</b>	<b>Covered Payroll</b>	<b>Net Pension Liability as a % of Covered Payroll</b>
2014	\$385,645,392	\$277,201,968	\$ 108,443,424	71.88%	\$28,548,873	379.85%

**SCHEDULE OF CONTRIBUTIONS MULTIYEAR  
(\$ IN MILLIONS)**

**Last 10 Fiscal Years**

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Actual Contribution as a % of Covered Payroll</b>
2005	\$ 9.9	\$ 7.9	\$ 2.0	\$ 22.5	35.11%
2006	10.0	9.6	0.4	24.2	39.67%
2007	9.9	11.5	(1.6)	24.6	46.75%
2008	10.0	11.7	(1.7)	26.4	44.32%
2009	10.5	12.1	(1.6)	27.6	43.84%
2010	12.7	20.5	(7.8)	28.5	71.93%
2011	12.6	14.1	(1.5)	28.2	50.00%
2012	14.1	19.7	(5.6)	29.5	66.78%
2013	13.6	19.5	(5.9)	28.1	69.40%
2014	14.0	19.5	(5.5)	29.1	67.01%

## NOTES TO SCHEDULE OF CONTRIBUTIONS

**Valuation Date:** June 30, 2014

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

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	4-Year smoothed market
Inflation	2.75% price inflation
Salary Increases	3.75% to 10.75% including inflation
Investment Rate of Return	7.75%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	Based on RP-2000 Combined Healthy mortality table, projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1 year for females, with an approximate 14% margin for future mortality improvement.

**Other Information:**

Notes: There were no benefit changes during the year.



**SCHEDULE OF INVESTMENT RETURNS MULTIYEAR****To be provided by System****Last 10 Fiscal Years**

<b>FY Ending June 30,</b>	<b>Annual Return<sup>1</sup></b>
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	

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

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**SECTION D**

NOTES TO FINANCIAL STATEMENTS

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### 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 (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2014 to 2023 were 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, 2014, these best estimates, provided by the plan's investment consultant, are summarized in the following table:

### Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic Fixed Income	9.00%	0.50%
Fixed Income Defensive	9.00%	0.80%
Large Cap Domestic Equity	20.00%	6.65%
Small/Mid Cap Domestic Equity	17.00%	7.90%
International Equity	12.00%	7.00%
Emerging Market Equity	12.00%	9.20%
Private Equity	2.50%	11.30%
Hedge Funds	2.50%	3.19%
Real Estate	16.00%	5.10%
<b>Total</b>	<u>100.00%</u>	
Total Real Rate of Return		5.91%
Plus: Price Inflation - Actuary's Assumption		2.75%
Less: Admin and Investment Expenses*		<u>0.50%</u>
Net Expected Return		8.16%

*\* This may overstate the investment expense as we understand the Callan capital market assumptions are gross (not net of expenses). Our assumption for investment expense includes the cost of active management which are assumed to reproduce returns in excess of expected returns are at least equal to the active management expenses.*

### Single Discount Rate

A single discount rate of 7.75% 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 7.75%. 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 7.75%, 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

<b>1% Decrease</b>	<b>Current Single</b>	<b>1% Increase</b>
<b>6.75%</b>	<b>Rate Assumption</b>	<b>8.75%</b>
<b>7.75%</b>		
\$151,865,200	\$108,443,424	\$71,889,568

**Disclosure Regarding the Deferred Retirement Option Program**

**To be provided by System**

## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	666
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	69
Active Plan Members	<u>471</u>
Total Plan Members	1,206

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## **SECTION E**

### SUMMARY OF BENEFITS

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## **SUMMARY OF NON-CONTRIBUTORY BENEFIT PROVISIONS (LAST CHANGED AS OF 7-1-2009)**

The Non-Contributory Plan was created by Act 793 of 1977 and was effective January 1, 1978. All non-retired members are now covered by non-contributory benefits. Act 1071 of 1997 created a Tier Two benefit plan for all officers hired on or after April 3, 1997. Existing members of the plan in effect prior to this date (Tier One) had one year to elect coverage under Tier Two.

### **VOLUNTARY RETIREMENT**

With a full benefit, after 30 years of actual service, regardless of age, or at age 65 with 5 actual years of service for Tier One and Tier Two. The age requirement is reduced by 1 month for every 2 months of Public Safety service credit, but not below age 52 for Tier One or age 55 for Tier Two members.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

With a reduced benefit, once a member's age is within 10 years of becoming eligible for full benefits. The reduction for Tier One is equal to 1/2 of 1% for each month retirement precedes Normal Retirement Age. The reduction for Tier Two is equal to 3/4 of 1% for each month retirement precedes Normal Retirement Age.

### **FINAL AVERAGE PAY (FAP)**

Average of the highest 60 calendar months' pays for Tier One or 48 calendar months for Tier Two.

### **FULL AGE & SERVICE RETIREMENT BENEFIT**

Tier One: 1.55% of FAP times years and months of credited service. Tier Two: 2.475% of FAP times credited service. If retirement is prior to age 62, an additional .322% of FAP times credited service will be paid until the retiree attains age 62 for Tier One or .513% of FAP times credited service for Tier Two.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

For Tier One, the portion of the SPRS benefit based on service before 1978 cannot be less than the amount provided by contributory provisions in effect at time of retirement; and if there is credited service for time prior to July 1, 1991, the benefit cannot be less than under the provisions in effect July 1, 1990, (using Social Security offset), plus increases granted since that date.

For Tier One, the minimum monthly benefit is \$150 minus any age and beneficiary option reductions.



### **VESTED AND REDUCED EARLY RETIREMENT BENEFITS**

5 years of actual service, and leaving System-covered employment before full retirement age.

Deferred full retirement benefit, based on service and pay at termination, begins when full retirement age would have been reached by continuing covered employment.

In place of a deferred full benefit, a qualifying member may elect an immediate reduced benefit, provided the member is within 10 years of full retirement age. The reduced amount is the full amount reduced by 1/2 of 1% for Tier One and/or 3/4 of 1% for Tier Two for each month of difference in benefit commencement ages.

### **DEATH WHILE IN SYSTEM COVERED EMPLOYMENT**

Member's accumulated contributions before 1978 are refundable.

If the deceased member has 5 or more years of service and has qualifying dependents, monthly benefits are payable instead. A surviving spouse receives a benefit as if the member had retired and elected the joint & 75% survivor option. Payment begins immediately if the member was eligible for a full age and service benefit or had 20 years of service; or payment begins at the spouse's age 50 if the member had 15 or more years of service; or payment begins at the spouse's age 62 if the member had less than 15 years of service.

If a member is killed while in the official line of duty and the surviving spouse is eligible for a deferred benefit, then the surviving spouse may elect to receive a reduced benefit immediately. The reduction of the benefit shall be 1/2 of 1% per month for each of the first 60 months that the benefit commences before when it would have otherwise commenced, plus; 1/4 of 1% per month for each month more than 60 months that the benefit commences before when it would have otherwise commenced. However, the total reduction shall not be more than 50%.

Each dependent child receives a benefit of 10% of annual pay (maximum of 25% of annual pay for all children).

Dependent parents' benefits are payable if neither spouse nor children's benefits are payable.

**TOTAL AND PERMANENT DISABILITY**

Tier One eligibility: Disabled after 5 years of service.

Tier Two eligibility: Disabled after 5 years of service.

Amount is computed as an age and service benefit, based on service and pay to the time of disability.

**DEATH AFTER RETIREMENT**

Retiring member can provide protection for a beneficiary by electing an option which provides beneficiary protection by reducing the retired employee's benefit amount.

Under Tier One, if a straight life annuity is paid, upon the retiree's death, 50% of the retiree's benefit is continued to a surviving spouse. If the deceased retiree leaves children under age 18, 75% of the retiree's benefit is continued to the surviving spouse. If there is no surviving spouse, the 75% will be divided among the children under age 18.

Under Tier Two, if a straight life annuity is elected, no survivor benefit is payable.

**BENEFIT INCREASES AFTER RETIREMENT**

Annually, there is a cost-of-living adjustment equal to 3% of the current benefit amount.

**MEMBER CONTRIBUTIONS**

None.

**ARKANSAS STATE POLICE OFFICERS DEFERRED RETIREMENT OPTION PLAN – TIER I  
(Act 967 of 1995)**

Tier One members with 30 years of credited service and who are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually at a rate established by the Board of Trustees.

**ARKANSAS STATE POLICE OFFICERS DEFERRED RETIREMENT OPTION PLAN – TIER II  
(Act 1242 of 2009)**

Tier Two members with at least 30 years of actual service and are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have seventy-two percent (72%) of their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually to participant accounts at a rate established by the Arkansas State Police Retirement System Board of Trustees that shall not be greater than five percent (5%) nor less than one percent (1%) per annum.

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## **SECTION F**

### ACTUARIAL ASSUMPTIONS

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**SUMMARY OF ACTUARIAL ASSUMPTIONS  
USED FOR STATE POLICE ACTUARIAL VALUATIONS  
ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER  
CONSULTING WITH ACTUARY**

In accordance with Section 24-6-204 of the Arkansas Code, the Board of Trustees adopts the actuarial assumptions used for actuarial valuation purposes.

***Economic Assumptions***

***The investment return rate*** used in making the valuation was 7.75% per year, compounded annually (net after administrative and investment expenses). The assumed real rate of return is the portion of investment return which is more than the wage inflation rate. Considering assumed wage inflation of 3.75%, the 7.75% investment return rate translates to an effective assumed real rate of return of 4.00%. The wage inflation assumption was revised for the June 30, 2014 valuation and the investment assumption was revised for the June 30, 2014 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 3.75% recognizes wage inflation. The pay increase assumption for individual active members was revised for the June 30, 2014 valuation.

***Total active member payroll*** is assumed to increase 3.75% a year, which is the portion of the individual pay increase assumptions recognizing wage 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 Combined Healthy mortality table, Projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1 year for females. Related values are shown on page 22. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years. Based upon the experience observed during the most recent experience study, it appears that at the time of the study, the current table provides for an approximate 14% margin for future mortality improvement. Pre-retirement mortality rates are assumed to be 50% of post-retirement mortality rates. The mortality assumption was revised for the June 30, 2013 valuation.

*The probabilities of retirement for members eligible to retire are shown on page 23. The assumption was revised for the June 30, 2013 valuation.*

*The probabilities of death-in-service, disability and withdrawal from service are shown for sample ages on page 24. The assumption for death-in-service was revised for the June 30, 2013 valuation.*

*The individual entry-age normal actuarial cost method of the valuation was used in determining liabilities and normal cost. For calculating actuarially determined contributions, for members who are assumed to enter the DROP, normal costs are assumed to be collected until the ultimate date of retirement. For GASB Statement No. 67 purposes for members who are assumed to enter the DROP, the date of entry into the DROP was considered to be the plan member's retirement date. Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.*

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal & interest) which are level percent-of-payroll contributions.

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*Present assets (cash & investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in 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.*

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

**SINGLE LIFE RETIREMENT VALUES**  
**RP-2000 COMBINED HEALTHY PROJECTED TO 2020 MORTALITY**  
**MALE RATES SET-FORWARD 2 YEARS**  
**FEMALE RATES SET-FORWARD 1 YEAR**  
**AND 7.75% INTEREST**

Sample Ages	Single Life Retirement Values			
	Present Value of \$1 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$189.86	\$199.70	31.13	34.64
55	174.68	186.08	26.58	29.98
60	157.43	170.13	22.23	25.44
65	138.40	152.20	18.14	21.14
70	117.68	132.83	14.35	17.16
75	96.25	112.51	10.95	13.56
80	75.15	91.71	8.02	10.35

Sample Attained Ages	\$100 Benefit Increasing 3% Yearly
55	\$100.00
60	115.93
65	134.39
70	155.79
75	180.60
80	209.36

## PROBABILITIES OF RETIREMENT FOR MEMBERS ELIGIBLE TO RETIRE

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year		Years of Service	Percent of Eligible Active Members Retiring Within Next Year
	Tier One	Tier Two		Tier Two
47	2%	-		
48	2%	-		
49	2%	-		
50	6%	2%	30	25%
51	6%	2%	31	15%
52	10%	2%	32	15%
53	10%	6%	33	20%
54	10%	6%	34	35%
55	10%	25%	35	40%
56	10%	20%	36 & Over	100%
57	15%	18%		
58	20%	18%		
59	35%	20%		
60	40%	25%		
61	50%	30%		
62	60%	100%		
63	80%	100%		
64	100%	100%		
65	100%	100%		

A member is assumed to be eligible to retire at age 52 (55 for Tier Two) with 17 years of service, or at any age with 30 years of service (Tier Two). A member is assumed to be eligible to retire early at age 47 (50 for Tier 2) with 17 years of service. For a Tier 2 member with 30 or more years of service at the beginning of a year, the percents shown for service based retirement (30 or more years) take precedence over the percents associated with age based retirement.

It was assumed that members eligible to enter the DROP will do so to maximize the value of their benefits.

These rates represent the point at which members ultimately terminate employment (after participating in the DROP, for those that do).



**SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE  
AGE AND SERVICE RETIREMENT  
& INDIVIDUAL PAY INCREASES**

Sample Ages	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions for Active Members		
	Death		Disability	Other	Merit & Seniority	Base (Economic)	Increase Next Year
	Male	Female					
20	0.02%	0.01%	0.06%	5.50%	6.29%	3.75%	10.04%
25	0.02%	0.01%	0.09%	5.50%	5.39%	3.75%	9.14%
30	0.03%	0.01%	0.19%	5.50%	4.01%	3.75%	7.76%
35	0.04%	0.02%	0.31%	4.18%	2.29%	3.75%	6.04%
40	0.06%	0.04%	0.43%	2.64%	1.50%	3.75%	5.25%
45	0.08%	0.06%	0.55%	1.43%	1.10%	3.75%	4.85%
50	0.13%	0.09%	0.67%	0.55%	0.80%	3.75%	4.55%
55	0.22%	0.14%	0.79%	0.00%	0.60%	3.75%	4.35%

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS JUNE 30, 2014

<b>Marriage Assumption:</b>	95% of males and 95% of females are assumed to be married for purposes of death-in-service benefits. 90% of males and 90% of females are assumed to be married for purposes of death-after-retirement benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<b>Pay Increase Timing:</b>	Beginning of year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
<b>Decrement Timing:</b>	Decrements are assumed to occur mid-year.
<b>Eligibility Testing:</b>	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.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability and withdrawal decrements do not operate during the period a member is assumed to be eligible for an unreduced benefit.
<b>DROP Participants:</b>	For funding valuation purposes, for members participating in the DROP, reported payroll is multiplied by 3.7 to estimate present value of future salaries. Payroll data was provided for the month of June 2014.
<b>Incidence of Contributions:</b>	Contributions are assumed to be received continuously throughout the year.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Tier One DROP Interest Credit:</b>	Interest is assumed to be credited at 3.25%.
<b>Tier Two DROP Interest Credit:</b>	Interest is assumed to be credited at 3.25%.
<b>Other Liability Adjustments:</b>	Active member non-refund normal costs and actuarial accrued liabilities were increased by 1.5% to reflect non-reported reciprocal service.

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## **SECTION G**

### **CALCULATION OF THE SINGLE DISCOUNT RATE**

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## 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 7.75%; the municipal bond rate is 4.29%; and the resulting single discount rate is 7.75%.

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.

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS

Year	Contributions from Current Employees	Normal Cost	UAL Contributions	Total Contributions
1	\$ -	\$ 6,003,994	\$ 7,711,644	\$ 13,715,638
2	-	6,082,449	7,835,012	13,917,461
3	-	6,147,626	7,418,783	13,566,409
4	-	6,198,273	7,173,220	13,371,493
5	-	5,262,288	7,442,216	12,704,504
6	-	5,242,823	7,721,299	12,964,122
7	-	5,195,551	8,010,848	13,206,400
8	-	5,102,925	8,311,254	13,414,180
9	-	4,976,277	8,622,927	13,599,203
10	-	4,832,974	8,946,287	13,779,261
11	-	4,640,007	9,281,771	13,921,779
12	-	4,406,518	9,629,838	14,036,356
13	-	4,176,786	9,990,958	14,167,744
14	-	3,946,596	10,365,618	14,312,214
15	-	3,706,287	10,754,329	14,460,616
16	-	3,464,358	11,157,616	14,621,974
17	-	3,236,926	11,576,027	14,812,953
18	-	3,032,757	12,010,128	15,042,885
19	-	2,832,622	12,460,507	15,293,129
20	-	2,612,720	12,927,777	15,540,497
21	-	2,381,754	13,412,568	15,794,323
22	-	2,158,012	13,915,540	16,073,552
23	-	1,943,406	14,437,373	16,380,779
24	-	1,757,175	14,978,774	16,735,949
25	-	1,609,090	15,540,478	17,149,569
26	-	1,453,845	0	1,453,845
27	-	1,260,316	0	1,260,316
28	-	1,056,308	0	1,056,308
29	-	860,554	0	860,554
30	-	672,423	0	672,423
31	-	520,267	0	520,267
32	-	414,782	0	414,782
33	-	323,303	0	323,303
34	-	226,978	0	226,978
35	-	138,853	0	138,853
36	-	67,236	0	67,236
37	-	19,505	0	19,505
38	-	-	0	0
39	-	-	0	0
40	-	-	0	0
41	-	-	0	0
42	-	-	0	0
43	-	-	0	0
44	-	-	0	0
45	-	-	0	0
46	-	-	0	0
47	-	-	0	0
48	-	-	0	0
49	-	-	0	0
50	-	-	0	0

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

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.75%
(a)	(b)	(c)	(d)	(e)	
1	\$ 277,201,968	\$ 13,715,638	\$ 34,531,412	\$ -	\$ 20,691,592
2	277,077,786	13,917,461	24,622,538	-	21,066,447
3	287,439,156	13,566,409	25,264,232	-	21,831,702
4	297,573,035	13,371,493	25,880,734	-	22,586,222
5	307,650,016	12,704,504	26,581,169	-	23,315,189
6	317,088,541	12,964,122	27,400,817	-	24,025,378
7	326,677,224	13,206,400	28,341,660	-	24,741,937
8	336,283,901	13,414,180	29,476,398	-	25,451,205
9	345,672,887	13,599,203	30,529,772	-	26,145,830
10	354,888,149	13,779,261	31,585,905	-	26,826,699
11	363,908,204	13,921,779	32,617,222	-	27,491,955
12	372,704,715	14,036,356	33,702,318	-	28,136,778
13	381,175,532	14,167,744	34,764,948	-	28,757,854
14	389,336,182	14,312,214	35,852,977	-	29,354,424
15	397,149,843	14,460,616	37,150,688	-	29,916,278
16	404,376,049	14,621,974	38,330,247	-	30,437,590
17	411,105,366	14,812,953	39,370,778	-	30,926,806
18	417,474,346	15,042,885	40,272,054	-	31,394,873
19	423,640,050	15,293,129	41,251,849	-	31,844,972
20	429,526,303	15,540,497	42,068,302	-	32,279,516
21	435,278,014	15,794,323	43,531,609	-	32,679,281
22	440,220,009	16,073,552	43,462,460	-	33,075,533
23	445,906,634	16,380,779	44,123,825	-	33,502,780
24	451,666,367	16,735,949	43,982,216	-	33,968,050
25	458,388,151	17,149,569	44,245,431	-	34,494,708
26	465,786,997	1,453,845	44,525,901	-	34,460,592
27	457,175,532	1,260,316	45,480,931	-	33,749,528
28	446,704,445	1,056,308	45,550,126	-	32,927,629
29	435,138,256	860,554	45,888,763	-	32,010,928
30	422,120,975	672,423	45,610,149	-	31,005,530
31	408,188,779	520,267	45,288,226	-	29,932,240
32	393,353,060	414,782	44,447,880	-	28,810,417
33	378,130,379	323,303	44,243,224	-	27,634,963
34	361,845,421	226,978	43,323,132	-	26,404,204
35	345,153,471	138,853	42,408,901	-	25,141,992
36	328,025,414	67,236	41,046,329	-	23,863,659
37	310,909,980	19,505	39,576,503	-	22,591,290
38	293,944,272	-	37,644,242	-	21,349,184
39	277,649,215	-	36,264,724	-	20,138,776
40	261,523,267	-	34,885,209	-	18,941,474
41	245,579,533	-	33,518,786	-	17,757,796
42	229,818,543	-	32,121,112	-	16,589,468
43	214,286,899	-	30,678,908	-	15,440,609
44	199,048,600	-	29,197,752	-	14,315,964
45	184,166,812	-	27,685,493	-	13,220,132
46	169,701,451	-	26,149,861	-	12,157,462
47	155,709,053	-	24,599,970	-	11,131,989
48	142,241,072	-	23,045,445	-	10,147,335
49	129,342,962	-	21,496,130	-	9,206,647
50	117,053,479	-	19,962,537	-	8,312,530

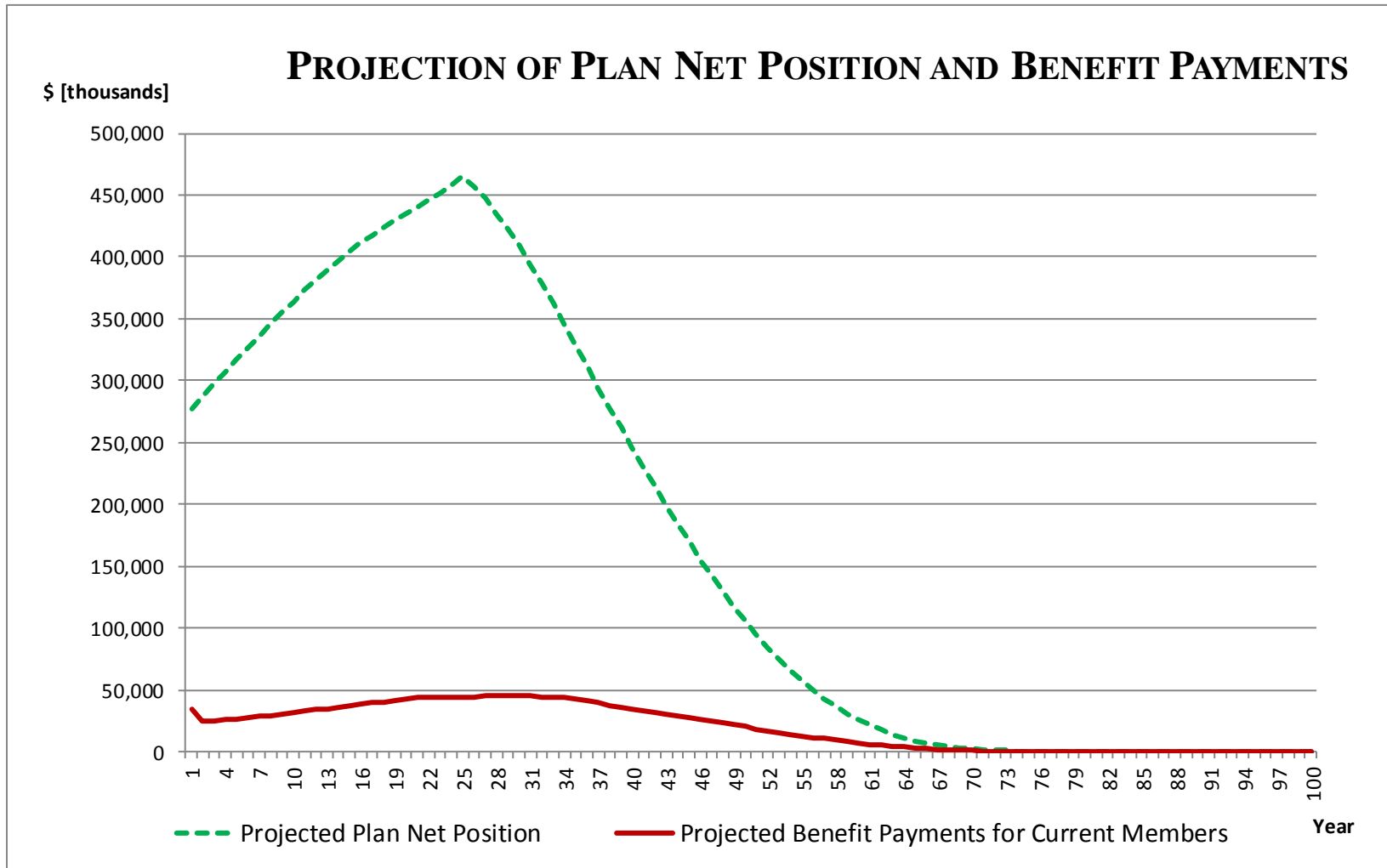
## SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS

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 <sup>-(a)-.5</sup>	(g)=(e)*vf <sup>-(a)-.5</sup>	(h)=((c)/(1+sdr) <sup>-(a)-.5</sup> )
1	\$ 277,201,968	\$ 34,531,412	\$ 34,531,412	\$ -	\$ 33,266,392	\$ -	\$ 33,266,392
2	277,077,786	24,622,538	24,622,538	-	22,014,402	-	22,014,402
3	287,439,156	25,264,232	25,264,232	-	20,963,457	-	20,963,457
4	297,573,035	25,880,734	25,880,734	-	19,930,404	-	19,930,404
5	307,650,016	26,581,169	26,581,169	-	18,997,494	-	18,997,494
6	317,088,541	27,400,817	27,400,817	-	18,174,751	-	18,174,751
7	326,677,224	28,341,660	28,341,660	-	17,446,687	-	17,446,687
8	336,283,901	29,476,398	29,476,398	-	16,840,106	-	16,840,106
9	345,672,887	30,529,772	30,529,772	-	16,187,385	-	16,187,385
10	354,888,149	31,585,905	31,585,905	-	15,542,797	-	15,542,797
11	363,908,204	32,617,222	32,617,222	-	14,895,859	-	14,895,859
12	372,704,715	33,702,318	33,702,318	-	14,284,369	-	14,284,369
13	381,175,532	34,764,948	34,764,948	-	13,674,945	-	13,674,945
14	389,336,182	35,852,977	35,852,977	-	13,088,563	-	13,088,563
15	397,149,843	37,150,688	37,150,688	-	12,586,828	-	12,586,828
16	404,376,049	38,330,247	38,330,247	-	12,052,407	-	12,052,407
17	411,105,366	39,370,778	39,370,778	-	11,489,176	-	11,489,176
18	417,474,346	40,272,054	40,272,054	-	10,906,902	-	10,906,902
19	423,640,050	41,251,849	41,251,849	-	10,368,687	-	10,368,687
20	429,526,303	42,068,302	42,068,302	-	9,813,367	-	9,813,367
21	435,278,014	43,531,609	43,531,609	-	9,424,330	-	9,424,330
22	440,220,009	43,462,460	43,462,460	-	8,732,585	-	8,732,585
23	445,906,634	44,123,825	44,123,825	-	8,227,812	-	8,227,812
24	451,666,367	43,982,216	43,982,216	-	7,611,514	-	7,611,514
25	458,388,151	44,245,431	44,245,431	-	7,106,325	-	7,106,325
26	465,786,997	44,525,901	44,525,901	-	6,637,004	-	6,637,004
27	457,175,532	45,480,931	45,480,931	-	6,291,750	-	6,291,750
28	446,704,445	45,550,126	45,550,126	-	5,848,095	-	5,848,095
29	435,138,256	45,888,763	45,888,763	-	5,467,816	-	5,467,816
30	422,120,975	45,610,149	45,610,149	-	5,043,729	-	5,043,729
31	408,188,779	45,288,226	45,288,226	-	4,647,916	-	4,647,916
32	393,353,060	44,447,880	44,447,880	-	4,233,570	-	4,233,570
33	378,130,379	44,243,224	44,243,224	-	3,910,976	-	3,910,976
34	361,845,421	43,323,132	43,323,132	-	3,554,193	-	3,554,193
35	345,153,471	42,408,901	42,408,901	-	3,228,947	-	3,228,947
36	328,025,414	41,046,329	41,046,329	-	2,900,420	-	2,900,420
37	310,909,980	39,576,503	39,576,503	-	2,595,415	-	2,595,415
38	293,944,272	37,644,242	37,644,242	-	2,291,135	-	2,291,135
39	277,649,215	36,264,724	36,264,724	-	2,048,421	-	2,048,421
40	261,523,267	34,885,209	34,885,209	-	1,828,769	-	1,828,769
41	245,579,533	33,518,786	33,518,786	-	1,630,754	-	1,630,754
42	229,818,543	32,121,112	32,121,112	-	1,450,352	-	1,450,352
43	214,286,899	30,678,908	30,678,908	-	1,285,599	-	1,285,599
44	199,048,600	29,197,752	29,197,752	-	1,135,528	-	1,135,528
45	184,166,812	27,685,493	27,685,493	-	999,271	-	999,271
46	169,701,451	26,149,861	26,149,861	-	875,958	-	875,958
47	155,709,053	24,599,970	24,599,970	-	764,770	-	764,770
48	142,241,072	23,045,445	23,045,445	-	664,912	-	664,912
49	129,342,962	21,496,130	21,496,130	-	575,602	-	575,602
50	117,053,479	19,962,537	19,962,537	-	496,090	-	496,090

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

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)^(a)-.5)
51	\$ 105,403,472	\$ 18,454,524	\$ 18,454,524	\$ -	\$ 425,628	\$ -	\$ 425,628
52	94,415,947	16,981,588	16,981,588	-	363,487	-	363,487
53	84,105,837	15,551,616	15,551,616	-	308,936	-	308,936
54	74,481,042	14,171,413	14,171,413	-	261,270	-	261,270
55	65,543,014	12,846,195	12,846,195	-	219,803	-	219,803
56	57,287,900	11,579,791	11,579,791	-	183,883	-	183,883
57	49,707,578	10,375,009	10,375,009	-	152,902	-	152,902
58	42,790,376	9,233,876	9,233,876	-	126,296	-	126,296
59	36,521,617	8,158,038	8,158,038	-	103,556	-	103,556
60	30,883,779	7,148,704	7,148,704	-	84,217	-	84,217
61	25,856,725	6,207,595	6,207,595	-	67,870	-	67,870
62	21,416,970	5,336,307	5,336,307	-	54,147	-	54,147
63	17,537,554	4,536,602	4,536,602	-	42,722	-	42,722
64	14,187,599	3,810,133	3,810,133	-	33,300	-	33,300
65	11,332,117	3,158,183	3,158,183	-	25,617	-	25,617
66	8,932,077	2,581,295	2,581,295	-	19,431	-	19,431
67	6,944,859	2,078,978	2,078,978	-	14,524	-	14,524
68	5,325,050	1,649,061	1,649,061	-	10,692	-	10,692
69	4,025,972	1,287,682	1,287,682	-	7,749	-	7,749
70	3,001,336	989,547	989,547	-	5,526	-	5,526
71	2,206,763	748,307	748,307	-	3,878	-	3,878
72	1,601,025	556,933	556,933	-	2,679	-	2,679
73	1,146,993	408,239	408,239	-	1,822	-	1,822
74	812,122	295,025	295,025	-	1,222	-	1,222
75	568,817	210,386	210,386	-	809	-	809
76	394,514	148,214	148,214	-	529	-	529
77	271,239	103,262	103,262	-	342	-	342
78	185,071	71,249	71,249	-	219	-	219
79	125,456	48,746	48,746	-	139	-	139
80	84,579	33,114	33,114	-	88	-	88
81	56,761	22,368	22,368	-	55	-	55
82	37,941	15,045	15,045	-	34	-	34
83	25,265	10,083	10,083	-	21	-	21
84	16,757	6,733	6,733	-	13	-	13
85	11,066	4,479	4,479	-	8	-	8
86	7,274	2,968	2,968	-	5	-	5
87	4,757	1,960	1,960	-	3	-	3
88	3,091	1,290	1,290	-	2	-	2
89	1,992	844	844	-	1	-	1
90	1,270	548	548	-	1	-	1
91	800	352	352	-	0	-	0
92	496	225	225	-	0	-	0
93	301	143	143	-	0	-	0
94	176	88	88	-	0	-	0
95	99	50	50	-	0	-	0
96	55	27	27	-	0	-	0
97	31	16	16	-	0	-	0
98	17	9	9	-	0	-	0
99	8	6	6	-	0	-	0
100	3	3	3	-	-	-	-
<b>Totals</b>					\$ 436,557,968	\$ -	\$ 436,557,968





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## **SECTION H**

### **GLOSSARY OF TERMS**

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## GLOSSARY OF TERMS

<b><i>Actuarial Accrued Liability (AAL)</i></b>	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."
<b><i>Actuarial Assumptions</i></b>	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.
<b><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	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.
<b><i>Actuarial Cost Method</i></b>	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.
<b><i>Actuarial Gain (Loss)</i></b>	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.
<b><i>Actuarial Present Value (APV)</i></b>	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.
<b><i>Actuarial Valuation</i></b>	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.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	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.

## GLOSSARY OF TERMS

<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Amortization Method</i></b>	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).
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	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.
<b><i>Covered-Employee Payroll</i></b>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<b><i>Deferred Retirement Option Program (DROP)</i></b>	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.
<b><i>Deferred Inflows and Outflows</i></b>	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.
<b><i>Discount Rate</i></b>	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 style="list-style-type: none"> <li>1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period and;</li> <li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li> </ol>

## GLOSSARY OF TERMS

<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	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.
<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>Long-Term Expected Rate of Return</i></b>	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.
<b><i>Money-Weighted Rate of Return</i></b>	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.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></b>	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.
<b><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	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.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

## GLOSSARY OF TERMS

<b><i>Other Postemployment Benefits (OPEB)</i></b>	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.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b><i>Total Pension Expense</i></b>	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total Pension Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. Pension Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol>
<b><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	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.



December 2, 2014

Ms. Gail H. Stone, Executive Director  
Arkansas State Police Retirement System  
One Union National Plaza  
124 West Capitol, Suite 400  
Little Rock, Arkansas 72201

Dear Gail,

Please find enclosed copies of the GASB Statement No. 67 Plan Reporting Accounting Schedules report of the Arkansas State Police Retirement System.

Sincerely,

Mita D. Drazilov, ASA, MAAA

MDD:mrh  
Enclosures