

**WYOMING PAID FIREMEN'S RETIREMENT FUND
PLAN B**

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

FOR THE MEASUREMENT DATE OF DECEMBER 31, 2014

July 27, 2015

The Board of Trustees
Wyoming Retirement System

Dear Board Members:

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

The actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statements No. 67 and 68. These calculations have been made on a basis that is consistent with our understanding of this Statement.

The 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 and GASB Statement No. 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 No. 67 and No. 68 may produce significantly different results. This report may be provided to parties other than the Wyoming Retirement System ("WRS") only in its entirety and only with the permission of WRS.

This report is based upon information, furnished to us by WRS, 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 report complements the actuarial valuation report that was provided to WRS and should be considered in conjunction with that report. Please see the actuarial valuation report as of January 1, 2014 for additional discussion of the nature of actuarial calculations and more information related to participant data.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Wyoming Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Leslie L. Thompson is a member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

By 

Leslie L. Thompson
FSA, FCA, EA, MAAA

By 

Joseph R. Herm

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SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

AS OF DECEMBER 31, 2014

Actuarial Valuation Date	January 1, 2014
Measurement Date of the Net Pension Liability	December 31, 2014
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2015

Membership

Number of	
- Retirees and Beneficiaries	81
- Inactive, Nonretired Members	52
- Active Members	368
- Total	501
Covered Payroll	\$ 24,552,559

Net Pension Liability

Total Pension Liability	\$ 115,032,645
Plan Fiduciary Net Position	116,157,258
Net Pension Liability	\$ (1,124,613)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	100.978%
Net Pension Liability as a Percentage of Covered Payroll	-4.580%

Development of the Single Discount Rate

Single Discount Rate	7.750%
Long-Term Expected Rate of Investment Return	7.750%
Long-Term Municipal Bond Rate*	3.650%
Last year ending December 31 in the 2014 to 2113 projection period for which projected benefit payments are fully funded	2113

Total Pension Expense \$ 3,117,625

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	2,548,750	-
Total	\$ 2,548,750	\$ -

*Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of December 31, 2014. 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).

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
- the annual money-weighted rate of return on pension plan investments for each year.

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
- 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 January 1, 2014 and a measurement date of December 31, 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 7.750%; the municipal bond rate is 3.650% (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 7.750%.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively, earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

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

A. Expense

1. Service Cost	\$	5,367,034
2. Interest on the Total Pension Liability		8,194,197
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(2,679,916)
5. Projected Earnings on Plan Investments (made negative for addition here)		(8,489,555)
6. Pension Plan Administrative Expense		87,431
7. Other Changes in Plan Fiduciary Net Position		1,247
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		0
9. Recognition of Outflow (Inflow) of Resources due to Assets		637,187
10. Recognition of Outflow of Resources due to Contributions made from December 31, 2014 to June 30, 2015		0 *
11. Total Pension Expense	\$	3,117,625

*In accordance with GASB 71, employers may need to illustrate contributions made from January 1, 2015 through June 30, 2015.

**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	\$	-
2. Assumption Changes (gains) or losses	\$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years }		1.0000
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	\$	-
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$	-
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$</u>	<u>-</u>
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	\$	-
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$	-
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$</u>	<u>-</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	3,185,937
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	\$	637,187
3. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	2,548,750

**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 of Resources	Inflows of Resources	Net Outflows of Resources
1. due to Liabilities	\$ -	\$ 0	\$ -
2. due to Assets	637,187	-	637,187
3. Total	\$ 637,187	\$ 0	\$ 637,187

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 0	\$ -
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	637,187	-	637,187
4. Total	\$ 637,187	\$ 0	\$ 637,187

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 0	\$ -
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	2,548,750	-	2,548,750
4. Total	\$ 2,548,750	\$ 0	\$ 2,548,750

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

Fiscal Year Ending December 31	Net Deferred Outflows of Resources
2015	\$ 637,187
2016	637,187
2017	637,187
2018	637,189
2019	-
Thereafter	0
Total	\$ 2,548,750

**STATEMENT OF FIDUCIARY NET POSITION
AS OF DECEMBER 31, 2014**

	2014
Assets	
Cash and Deposits	\$ 7,396,489
Receivables	
Accounts Receivable - Sale of Investments	\$ 57,485
Accrued Interest and Other Dividends	303,091
Contributions	485,329
Accounts Receivable - Other	17,015,962
Total Receivables	\$ 17,861,867
Investments	
Fixed Income	\$ 23,276,966
Domestic Equities	58,780,772
International Equities	-
Real Estate	-
Other	36,507,577
Total Investments	\$ 118,565,315
Total Assets	\$ 143,823,671
 Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 1,051,599
Accrued Expenses	201,748
Accounts Payable - Other	26,413,066
Total Liabilities	\$ 27,666,413
Net Position Restricted for Pensions	\$ 116,157,258

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR YEAR ENDED DECEMBER 31, 2014**

	2014
Additions	
Contributions	
Employer	\$ 3,184,045
Employee	2,414,435
Other	265,481
Total Contributions	\$ 5,863,961
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 3,264,512
Interest and Dividends	2,760,192
Less Investment Expense	(721,086)
Net Investment Income	\$ 5,303,618
Other	\$ -
Total Additions	\$ 11,167,579
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 3,153,284
Pension Plan Administrative Expense	87,431
Other	1,247
Total Deductions	\$ 3,241,962
Net Increase in Net Position	\$ 7,925,617
 Net Position Restricted for Pensions	
Beginning of Year	\$ 108,231,641
End of Year	\$ 116,157,258

SECTION C

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	\$	5,367,034
2. Interest on the Total Pension Liability		8,194,197
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		-
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(3,153,284)
7. Net change in total pension liability	\$	10,407,947
8. Total pension liability – beginning		104,624,698
9. Total pension liability – ending	<u>\$</u>	<u>115,032,645</u>
B. Plan fiduciary net position		
1. Contributions – employer	\$	3,184,045
2. Contributions – employee		2,414,435
3. Net investment income		5,303,618
4. Benefit payments, including refunds of employee contributions		(3,153,284)
5. Pension Plan Administrative Expense		(87,431)
6. Other		264,234
7. Net change in plan fiduciary net position	\$	7,925,617
8. Plan fiduciary net position – beginning		108,231,641
9. Plan fiduciary net position – ending	<u>\$</u>	<u>116,157,258</u>
C. Net pension liability	<u>\$</u>	<u>(1,124,613)</u>
D. Plan fiduciary net position as a percentage of the total pension liability		100.98%
E. Covered-employee payroll	\$	24,552,559
F. Net pension liability as a percentage of covered employee payroll		(4.58)%

Notes to Schedule:

Other changes to Plan Fiduciary Net Position includes member redeposits, member service purchase contributions, other funding sources, and depreciation expenses.

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

Measurement date as of December 31,	<u>2014</u>
Total Pension Liability	
Service Cost	\$ 5,367,034
Interest on the Total Pension Liability	8,194,197
Benefit Changes	-
Difference between Expected and Actual Experience	-
Assumption Changes	-
Benefit Payments	(3,090,522)
Refunds	(62,762)
Net Change in Total Pension Liability	<u>10,407,947</u>
Total Pension Liability - Beginning	<u>104,624,698</u>
Total Pension Liability - Ending (a)	<u>\$ 115,032,645</u>
Plan Fiduciary Net Position	
Employer Contributions	\$ 3,184,045
Employee Contributions	2,414,435
Pension Plan Net Investment Income	5,303,618
Benefit Payments	(3,090,522)
Refunds	(62,762)
Pension Plan Administrative Expense	(87,431)
Other	264,234
Net Change in Plan Fiduciary Net Position	<u>7,925,617</u>
Plan Fiduciary Net Position - Beginning	<u>108,231,641</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 116,157,258</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,124,613)</u>
Plan Fiduciary Net Position as a Percentage	
of Total Pension Liability	100.98%
Covered Employee Payroll	\$ 24,552,559
Projected Valuation Payroll	\$ 25,596,043
Net Pension Liability as a Percentage	
of Covered Employee Payroll	(4.58)%
Notes to Schedule:	
Other changes to Plan Fiduciary Net Position includes member redeposits, member service purchase contributions, other funding sources, and depreciation expenses.	

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY MULTIYEAR
Last 10 Plan Years (which may be built prospectively)

FY Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 115,032,645	\$ 116,157,258	\$ (1,124,613)	100.98%	\$ 24,552,559	(4.58)%

**SCHEDULE OF CONTRIBUTIONS MULTIYEAR
LAST 10 PLAN YEARS**

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	\$ 3,273,329	\$ 3,184,045	\$ 89,284	\$ 24,552,559	12.97%

* Includes other funding sources but excludes member redeposits and member service purchase contributions.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	January 1, 2014
Notes	Actuarially determined contribution rates are calculated as of July 1 each year for implementation the following fiscal year.
Methods and Assumptions Used to Determine Contribution Rates:	
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Open
Remaining Amortization Period	30 years
Asset Valuation Method	5-Year smoothed market
Inflation	3.25%
Salary Increases	4.25% to 7.00% including inflation
Investment Rate of Return	7.75%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2014 valuation pursuant to an experience study of the period 2007 - 2011.
Post-Retirement Mortality	RP-2000 Combined Mortality Table, generational projected with Scale BB. Males: No set back with a 104% multiplier. Females: Set forward 1 year with a 90% multiplier.
Pre-Retirement Mortality	RP-2000 Combined Mortality Table, generational projected with Scale BB. Males: Set back 4 years with a 104% multiplier. Females: Set back 3 years with a 90% multiplier.
Other Information:	
Notes	There were no benefit changes during the year.

**SCHEDULE OF INVESTMENT RETURNS MULTIYEAR
LAST 10 PLAN YEARS**

<u>FY Ending December 31,</u>	<u>Annual Return¹</u>
2014	4.70 %

¹ Annual money-weighted rate of return, net of investment expenses.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by the plan’s trustees after considering input from the plan’s investment consultant and actuary. Additional information about the assumed rate of investment return is included in our actuarial valuation report as of January 1, 2014. In addition, a five year experience study was completed as of December 31, 2011 and this study provides a detailed analysis regarding recommendations on the long term rates for inflation and the real rate of return. The assumed rate of investment return of 7.75% falls within a reasonable range of the long-term expected rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return 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. For each major asset class that is included in the pension plan’s target asset allocation as of January 1, 2014, these best estimates 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>
Cash	2.50%	0.50%
Fixed Income	15.00%	0.80%
Equity	55.00%	5.26%
Marketable Alternatives	15.50%	3.79%
Private Markets	12.00%	5.76%
Total	<u>100.00%</u>	

The figures in the above table were supplied by NEPC; the investment consulting firm to the Wyoming Retirement System. Gabriel, Roeder, Smith and Company does not provide investment advice.

Single Discount Rate

A Single Discount Rate of 7.750% 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 7.750%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member and employer contributions will be made at the current scheduled contribution rates. 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.

Sensitivity of Results

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 7.750%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

SENSITIVITY OF NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.750%	7.750%	8.750%
\$14,868,470	-\$1,124,613	-\$14,451,915

SUMMARY OF POPULATION STATISTICS

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	81
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	52
Active Plan Members	<u>368</u>
Total Plan Members	501

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF PLAN PROVISIONS

Covered Members	Any person who is employed by the Wyoming Paid Firemen Retirement Fund Plan B for members hired on or after July 1, 1981.
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Service Retirement	
Eligibility	Age 50 with four or more years of service.
Monthly Benefit	2.80% of employee's highest three-year average salary for each year of credited service, with a max of 25 years or 70%.
Vesting	Any employee who has left employment with four or more years of service, and who has not withdrawn accumulated contributions, is eligible to receive the above benefit or can elect to receive a lump-sum refund of contributions without interest. An employee who terminates with less than four years of service is only eligible for the lump-sum benefit.
Disability Retirement	
Eligibility	No age or service eligibility requirements. Partial or total disability resulting from an individual and specific act, the type of which would normally occur only while employed as an employee, or as otherwise defined under W.S. 15-5-405.
Monthly Benefit	50.0% of Final Average Salary.

Pre-retirement Death Benefit

Eligibility	No age or service requirements.
Monthly Benefit	50% of member's final actual salary, payable to the surviving spouse or eligible dependent child.

Post-retirement Death Benefit

Monthly Benefit	On the death of a member, inactive member, retired member, or survivor the excess of the accumulated member contributions over all pension payments made are payable as a death benefit.
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Contributions

Employee	8.725% of salary increasing to 9.245% effective July 1, 2014. The employer may subsidize all or part of the employee contributions.
Employer	12.00% of salary.
Interest	None.

Cost-of-Living Improvements

W.S. 9-3-454 prohibits benefit changes, including cost-of-living increases, unless the funded ratio stays above 100% plus a margin for adverse experience throughout the life of the benefit change.

Optional Forms of Payment

Option 1 (normal form)	Monthly benefit for life with a lump-sum death benefit equal to the excess (if any) of the employee contributions over the total benefits received.
Option 2	Monthly benefit for life. Upon death, 100% of the benefit continues to be paid to the beneficiary.
Option 3	Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary.
Option 4	Monthly benefit for life with a guarantee of 120 monthly payments
Option 5	The largest possible monthly benefit payable for life with no lump-sum death benefit.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

The following methods and assumptions were used in preparing the January 1, 2014 actuarial valuation report.

1. Valuation Date

The valuation date for any given year is January 1st, the first day of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

2. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal (EAN) actuarial cost method, amortized as a level percentage of payroll. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) the rate that will amortize the unfunded actuarial accrued liability (UAAL).

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 7.75%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and an accrued liability contribution.
- c. The normal cost contribution is determined using the "entry age normal" actuarial cost method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.

- d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date.

3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income, with interest, dividends, and other income recognized immediately. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. An adjustment is made if the actuarial value is not within 20% of the Market Value. For any year following a year in which the 20% of market value adjustment was applied, the actuarial value is determined as if the adjustment was not applied in the previous year.

4. Economic Assumptions

a. Investment return

7.75% per year, compounded annually, composed of an assumed 3.25% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of investment expenses.

b. Salary increase rate

Age	Rate
20	7.00%
25	7.00%
30	7.00%
35	6.50%
40	5.50%
45	5.50%
50	5.00%
55	4.75%
60	4.25%

- c. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 4.25% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

5. Demographic Assumptionsa. Mortality

Healthy Pre-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: Set back 4 years with a multiplier of 104%

Females: Set back 3 years with a multiplier of 90%

Healthy Post-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: No set back with a multiplier of 104%

Females: Set forward 1 year with a multiplier of 90%

Disabled Mortality:

RP-2000 Disabled Mortality Table, fully generational, projected with Scale BB

Males: Set forward 5 years with a multiplier of 120%

Females: Set forward 5 years with a multiplier of 120%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2015 using Scale BB					
	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.03%	0.02%	2.59%	0.85%
25	0.04%	0.02%	0.04%	0.02%	2.59%	0.85%
30	0.04%	0.02%	0.04%	0.03%	2.59%	0.85%
35	0.05%	0.03%	0.08%	0.04%	2.59%	0.85%
40	0.08%	0.05%	0.11%	0.07%	2.59%	0.85%
45	0.11%	0.07%	0.15%	0.11%	3.32%	1.32%
50	0.16%	0.11%	0.21%	0.16%	4.07%	1.84%
55	0.24%	0.17%	0.36%	0.25%	4.54%	2.25%
60	0.42%	0.28%	0.63%	0.44%	5.02%	2.81%
65	0.71%	0.50%	1.11%	0.82%	5.99%	3.77%
70	1.23%	0.91%	1.84%	1.40%	7.85%	5.23%
75			3.14%	2.33%	10.46%	7.24%
80			5.34%	3.81%	13.55%	10.03%
85			9.18%	6.49%	18.64%	14.24%
90			16.16%	11.19%	29.33%	21.33%
95			25.42%	17.15%	39.52%	27.24%
100			34.25%	21.38%	47.75%	35.17%

100% of active deaths and disabilities are assumed to be duty-related.

b. Disability and Withdrawal

Age	Disability		Withdrawal	
	Male	Female	Ultimate	
	Male	Female	Male	Female
20	0.03%	0.03%	12.00%	12.00%
25	0.03%	0.03%	8.00%	8.00%
30	0.03%	0.03%	5.00%	5.00%
35	0.19%	0.19%	3.00%	3.00%
40	0.42%	0.42%	1.00%	1.00%
45	0.65%	0.65%	1.00%	1.00%
50	0.82%	0.82%	1.00%	1.00%
55	1.81%	1.81%	0.50%	0.50%
60	2.00%	2.00%	0.50%	0.50%

c. Retirement Rates

Age	Rate
50	20.0%
51	10.0%
52	15.0%
53	20.0%
54	20.0%
55	30.0%
56	30.0%
57	30.0%
58	30.0%
59	30.0%
60	50.0%
61	50.0%
62	100.0%

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

- a. Percent married: 100.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is age 50.
- f. No benefit data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive non-retired members is approximated using the data provided.
- g. There will be no recoveries once disabled. We assume all members are totally disabled.
- h. Administrative expenses: Assumed to be the average of the prior two years, with each year projected at 6.5% to the valuation date.
- i. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pay represents amount paid to members during the year ended on the valuation date.
- j. Decrement timing: Decrements of all types are assumed to occur mid-year.
- k. 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.
- l. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in the report, and the actual payroll payable at the time contributions are made.
- m. Benefit Service: All members are assumed to accrue one year of service each year.

EXPERIENCE ANALYSIS

An experience study was conducted on behalf of all WRS' plans covering the five year period ending December 31, 2011. That study provided a detailed analysis concerning the development of the long term inflation rate, real rate of return and discount rate. The study also analyzed each major actuarial assumption (e.g. mortality, salary increases, retirement, termination and disability) and proposed assumptions consistent with the findings. For further information on the experience study and related assumption recommendation, the reader is requested to request the December 31, 2011 Wyoming Retirement System Experience Study.

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 7.750%; the municipal bond rate is 3.650%; and the resulting Single Discount Rate is 7.750%.

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 ENDING DECEMBER 31 FOR 2014 TO 2063**

Year	Payroll for		Total Employee Payroll	Contributions from Current Employees	Employer	Employer	Total Contributions
	Current Employees	Payroll for Future Employees			Contributions for Current Employees	Contributions Related to Payroll of Future Employees	
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)
2014	\$ 25,169,663	\$ 426,379	\$ 25,596,043	\$ 2,414,435	\$ 3,449,526	\$ -	\$ 5,863,961
2015	24,958,244	1,725,631	26,683,875	2,307,390	2,994,989	-	5,302,379
2016	24,799,991	3,017,949	27,817,940	2,292,759	2,975,999	-	5,268,758
2017	24,668,376	4,331,826	29,000,202	2,280,591	2,960,205	-	5,240,796
2018	24,550,364	5,682,347	30,232,711	2,269,681	2,946,044	-	5,215,725
2019	24,377,428	7,140,173	31,517,601	2,253,693	2,925,291	-	5,178,984
2020	24,186,564	8,670,535	32,857,099	2,236,048	2,902,388	-	5,138,436
2021	23,960,881	10,292,645	34,253,526	2,215,183	2,875,306	-	5,090,489
2022	23,676,288	12,033,013	35,709,301	2,188,873	2,841,155	-	5,030,028
2023	23,338,523	13,888,423	37,226,946	2,157,646	2,800,623	-	4,958,269
2024	22,849,182	15,959,909	38,809,091	2,112,407	2,741,902	-	4,854,309
2025	22,241,010	18,217,467	40,458,477	2,056,181	2,668,921	-	4,725,102
2026	21,605,415	20,572,547	42,177,962	1,997,421	2,592,650	-	4,590,071
2027	20,893,007	23,077,518	43,970,525	1,931,558	2,507,161	-	4,438,719
2028	20,004,042	25,835,230	45,839,272	1,849,374	2,400,485	-	4,249,859
2029	18,906,294	28,881,147	47,787,441	1,747,887	2,268,755	-	4,016,642
2030	17,679,262	32,139,145	49,818,407	1,634,448	2,121,511	-	3,755,959
2031	16,379,157	35,556,532	51,935,689	1,514,253	1,965,499	-	3,479,752
2032	15,043,219	39,099,737	54,142,956	1,390,746	1,805,186	-	3,195,932
2033	13,629,310	42,814,722	56,444,032	1,260,030	1,635,517	-	2,895,547
2034	12,142,266	46,700,637	58,842,903	1,122,553	1,457,072	-	2,579,625
2035	10,669,114	50,674,612	61,343,726	986,360	1,280,294	-	2,266,654
2036	9,205,673	54,745,161	63,950,834	851,065	1,104,681	-	1,955,746
2037	7,804,687	58,864,057	66,668,744	721,543	936,562	-	1,658,105
2038	6,510,900	62,991,266	69,502,166	601,933	781,308	-	1,383,241
2039	5,298,684	67,157,324	72,456,008	489,863	635,842	-	1,125,705
2040	4,195,733	71,339,655	75,535,388	387,896	503,488	-	891,384
2041	3,252,315	75,493,327	78,745,642	300,676	390,278	-	690,954
2042	2,447,829	79,644,503	82,092,332	226,302	293,740	-	520,042
2043	1,801,671	83,779,585	85,581,256	166,564	216,201	-	382,765
2044	1,292,613	87,925,846	89,218,459	119,502	155,114	-	274,616
2045	894,877	92,115,367	93,010,244	82,731	107,385	-	190,116
2046	598,925	96,364,254	96,963,179	55,371	71,871	-	127,242
2047	382,127	100,701,987	101,084,114	35,328	45,855	-	81,183
2048	230,255	105,149,934	105,380,189	21,287	27,631	-	48,918
2049	129,791	109,729,056	109,858,847	11,999	15,575	-	27,574
2050	68,387	114,459,461	114,527,848	6,322	8,206	-	14,528
2051	34,795	119,360,487	119,395,282	3,217	4,175	-	7,392
2052	15,407	124,454,174	124,469,581	1,424	1,849	-	3,273
2053	7,700	129,751,838	129,759,538	712	924	-	1,636
2054	2,951	135,271,367	135,274,318	273	354	-	627
2055	1,094	141,022,383	141,023,477	101	131	-	232
2056	383	147,016,592	147,016,975	35	46	-	81
2057	-	153,265,196	153,265,196	-	-	-	-
2058	-	159,778,967	159,778,967	-	-	-	-
2059	-	166,569,573	166,569,573	-	-	-	-
2060	-	173,648,780	173,648,780	-	-	-	-
2061	-	181,028,853	181,028,853	-	-	-	-
2062	-	188,722,579	188,722,579	-	-	-	-
2063	-	196,743,289	196,743,289	-	-	-	-

**SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION
OF CONTRIBUTIONS ENDING DECEMBER 31 FOR 2064 TO 2113**

Year	Payroll for		Total Employee Payroll	Contributions from Current Employees	Employer Contributions for	Employer Contributions	Total Contributions
	Current Employees	Payroll for Future Employees			Current Employees	Related to Payroll of Future Employees	
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)
2064	\$ -	\$ 205,104,879	\$ 205,104,879	\$ -	\$ -	\$ -	\$ -
2065	-	213,821,836	213,821,836	-	-	-	-
2066	-	222,909,264	222,909,264	-	-	-	-
2067	-	232,382,908	232,382,908	-	-	-	-
2068	-	242,259,182	242,259,182	-	-	-	-
2069	-	252,555,197	252,555,197	-	-	-	-
2070	-	263,288,793	263,288,793	-	-	-	-
2071	-	274,478,567	274,478,567	-	-	-	-
2072	-	286,143,906	286,143,906	-	-	-	-
2073	-	298,305,022	298,305,022	-	-	-	-
2074	-	310,982,985	310,982,985	-	-	-	-
2075	-	324,199,762	324,199,762	-	-	-	-
2076	-	337,978,252	337,978,252	-	-	-	-
2077	-	352,342,328	352,342,328	-	-	-	-
2078	-	367,316,877	367,316,877	-	-	-	-
2079	-	382,927,844	382,927,844	-	-	-	-
2080	-	399,202,277	399,202,277	-	-	-	-
2081	-	416,168,374	416,168,374	-	-	-	-
2082	-	433,855,530	433,855,530	-	-	-	-
2083	-	452,294,390	452,294,390	-	-	-	-
2084	-	471,516,902	471,516,902	-	-	-	-
2085	-	491,556,370	491,556,370	-	-	-	-
2086	-	512,447,516	512,447,516	-	-	-	-
2087	-	534,226,535	534,226,535	-	-	-	-
2088	-	556,931,163	556,931,163	-	-	-	-
2089	-	580,600,737	580,600,737	-	-	-	-
2090	-	605,276,268	605,276,268	-	-	-	-
2091	-	631,000,509	631,000,509	-	-	-	-
2092	-	657,818,031	657,818,031	-	-	-	-
2093	-	685,775,297	685,775,297	-	-	-	-
2094	-	714,920,747	714,920,747	-	-	-	-
2095	-	745,304,879	745,304,879	-	-	-	-
2096	-	776,980,336	776,980,336	-	-	-	-
2097	-	810,002,000	810,002,000	-	-	-	-
2098	-	844,427,085	844,427,085	-	-	-	-
2099	-	880,315,236	880,315,236	-	-	-	-
2100	-	917,728,634	917,728,634	-	-	-	-
2101	-	956,732,101	956,732,101	-	-	-	-
2102	-	997,393,215	997,393,215	-	-	-	-
2103	-	1,039,782,427	1,039,782,427	-	-	-	-
2104	-	1,083,973,180	1,083,973,180	-	-	-	-
2105	-	1,130,042,040	1,130,042,040	-	-	-	-
2106	-	1,178,068,827	1,178,068,827	-	-	-	-
2107	-	1,228,136,752	1,228,136,752	-	-	-	-
2108	-	1,280,332,564	1,280,332,564	-	-	-	-
2109	-	1,334,746,698	1,334,746,698	-	-	-	-
2110	-	1,391,473,433	1,391,473,433	-	-	-	-
2111	-	1,450,611,054	1,450,611,054	-	-	-	-
2112	-	1,512,262,024	1,512,262,024	-	-	-	-
2113	-	1,576,533,160	1,576,533,160	-	-	-	-

**SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION
OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31 FOR 2014 TO 2063**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2014	\$ 108,231,641	\$ 5,863,961	\$ 3,153,284	\$ 88,678	\$ 5,303,618	\$ 116,157,258
2015	116,157,258	5,302,379	3,813,685	93,394	9,055,247	126,607,804
2016	126,607,804	5,268,758	4,375,248	96,429	9,842,415	137,247,301
2017	137,247,301	5,240,796	4,896,917	99,563	10,645,956	148,137,573
2018	148,137,573	5,215,725	5,471,764	102,799	11,467,016	159,245,751
2019	159,245,751	5,178,984	6,112,386	106,140	12,302,015	170,508,224
2020	170,508,224	5,138,436	6,759,463	109,590	13,148,577	181,926,184
2021	181,926,184	5,090,489	7,465,295	113,152	14,004,670	193,442,896
2022	193,442,896	5,030,028	8,221,405	116,829	14,866,023	205,000,714
2023	205,000,714	4,958,269	8,992,419	120,626	15,729,562	216,575,500
2024	216,575,500	4,854,309	9,855,249	124,546	16,589,695	228,039,708
2025	228,039,708	4,725,102	10,783,839	128,594	17,437,792	239,290,169
2026	239,290,169	4,590,071	11,728,851	132,773	18,268,473	250,287,089
2027	250,287,089	4,438,719	12,721,595	137,088	19,077,064	260,944,189
2028	260,944,189	4,249,859	13,820,075	141,543	19,853,866	271,086,295
2029	271,086,295	4,016,642	15,060,600	146,143	20,583,662	280,479,855
2030	280,479,855	3,755,959	16,370,811	150,893	21,251,746	288,965,857
2031	288,965,857	3,479,752	17,651,686	155,797	21,850,014	296,488,139
2032	296,488,139	3,195,932	18,877,221	160,860	22,375,402	303,021,392
2033	303,021,392	2,895,547	20,139,691	166,088	22,822,099	308,433,259
2034	308,433,259	2,579,625	21,398,828	171,486	23,181,419	312,623,988
2035	312,623,988	2,266,654	22,580,342	177,059	23,449,158	315,582,398
2036	315,582,398	1,955,746	23,719,262	182,813	23,623,083	317,259,153
2037	317,259,153	1,658,105	24,765,993	188,754	23,701,684	317,664,195
2038	317,664,195	1,383,241	25,640,902	194,889	23,689,119	316,900,763
2039	316,900,763	1,125,705	26,391,206	201,223	23,591,387	315,025,426
2040	315,025,426	891,384	26,994,524	207,763	23,413,946	312,128,469
2041	312,128,469	690,954	27,408,340	214,515	23,165,818	308,362,387
2042	308,362,387	520,042	27,680,625	221,487	22,856,828	303,837,144
2043	303,837,144	382,765	27,790,366	228,685	22,496,454	298,697,313
2044	298,697,313	274,616	27,763,943	236,117	22,094,727	293,066,596
2045	293,066,596	190,116	27,623,930	243,791	21,660,166	287,049,157
2046	287,049,157	127,242	27,377,026	251,714	21,200,511	280,748,169
2047	280,748,169	81,183	27,043,463	259,895	20,722,806	274,248,800
2048	274,248,800	48,918	26,634,125	268,342	20,233,123	267,628,373
2049	267,628,373	27,574	26,160,156	277,063	19,736,920	260,955,648
2050	260,955,648	14,528	25,631,092	286,068	19,239,064	254,292,081
2051	254,292,081	7,392	25,057,147	295,365	18,743,838	247,690,798
2052	247,690,798	3,273	24,448,753	304,964	18,254,852	241,195,207
2053	241,195,207	1,636	23,809,712	314,875	17,775,306	234,847,561
2054	234,847,561	627	23,147,076	325,108	17,308,134	228,684,137
2055	228,684,137	232	22,461,914	335,674	16,856,106	222,742,887
2056	222,742,887	81	21,755,992	346,583	16,422,083	217,062,476
2057	217,062,476	-	21,030,226	357,847	16,009,018	211,683,422
2058	211,683,422	-	20,285,037	369,477	15,620,036	206,648,944
2059	206,648,944	-	19,521,396	381,485	15,258,447	202,004,510
2060	202,004,510	-	18,740,126	393,883	14,927,741	197,798,241
2061	197,798,241	-	17,941,871	406,684	14,631,624	194,081,310
2062	194,081,310	-	17,127,293	419,901	14,374,035	190,908,151
2063	190,908,151	-	16,297,640	433,548	14,159,145	188,336,108

**SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION
OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31 FOR 2064 TO 2113**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2064	\$ 188,336,108	\$ -	\$ 15,455,085	\$ 447,638	\$ 13,991,316	\$ 186,424,701
2065	186,424,701	-	14,601,952	462,186	13,875,071	185,235,634
2066	185,235,634	-	13,740,119	477,207	13,815,120	184,833,428
2067	184,833,428	-	12,871,511	492,716	13,816,390	185,285,590
2068	185,285,590	-	11,998,449	508,729	13,884,023	186,662,435
2069	186,662,435	-	11,124,062	525,263	14,023,350	189,036,459
2070	189,036,459	-	10,252,337	542,334	14,239,837	192,481,625
2071	192,481,625	-	9,387,627	559,960	14,539,049	197,073,088
2072	197,073,088	-	8,534,954	578,159	14,926,620	202,886,595
2073	202,886,595	-	7,699,736	596,949	15,408,213	209,998,123
2074	209,998,123	-	6,887,167	616,350	15,989,519	218,484,125
2075	218,484,125	-	6,102,803	636,381	16,676,249	228,421,190
2076	228,421,190	-	5,353,089	657,063	17,474,094	239,885,132
2077	239,885,132	-	4,644,941	678,418	18,388,667	252,950,439
2078	252,950,439	-	3,984,258	700,467	19,425,513	267,691,228
2079	267,691,228	-	3,375,619	723,232	20,590,203	284,182,580
2080	284,182,580	-	2,822,002	746,737	21,888,442	302,502,282
2081	302,502,282	-	2,325,300	771,006	23,326,184	322,732,160
2082	322,732,160	-	1,886,633	796,064	24,909,728	344,959,191
2083	344,959,191	-	1,505,555	821,936	26,645,830	369,277,529
2084	369,277,529	-	1,180,631	848,649	28,541,841	395,790,090
2085	395,790,090	-	909,233	876,230	30,605,836	424,610,463
2086	424,610,463	-	687,238	904,707	32,846,774	455,865,292
2087	455,865,292	-	509,531	934,110	35,274,663	489,696,314
2088	489,696,314	-	370,468	964,469	37,900,701	526,262,078
2089	526,262,078	-	263,996	995,814	40,737,404	565,739,672
2090	565,739,672	-	184,345	1,028,178	43,798,716	608,325,864
2091	608,325,864	-	126,184	1,061,594	47,100,087	654,238,174
2092	654,238,174	-	84,677	1,096,096	50,658,557	703,715,958
2093	703,715,958	-	55,803	1,131,719	54,492,829	757,021,264
2094	757,021,264	-	36,184	1,168,500	58,623,337	814,439,917
2095	814,439,917	-	23,145	1,206,476	63,072,335	876,282,632
2096	876,282,632	-	14,623	1,245,686	67,863,978	942,886,301
2097	942,886,301	-	9,152	1,286,171	73,024,431	1,014,615,409
2098	1,014,615,409	-	5,682	1,327,972	78,581,979	1,091,863,734
2099	1,091,863,734	-	3,510	1,371,131	84,567,166	1,175,056,259
2100	1,175,056,259	-	2,156	1,415,693	91,012,944	1,264,651,353
2101	1,264,651,353	-	1,316	1,461,703	97,954,846	1,361,143,180
2102	1,361,143,180	-	797	1,509,208	105,431,176	1,465,064,351
2103	1,465,064,351	-	481	1,558,257	113,483,213	1,576,988,826
2104	1,576,988,826	-	292	1,608,900	122,155,441	1,697,535,075
2105	1,697,535,075	-	175	1,661,189	131,495,792	1,827,369,503
2106	1,827,369,503	-	104	1,715,178	141,555,909	1,967,210,130
2107	1,967,210,130	-	60	1,770,921	152,391,440	2,117,830,590
2108	2,117,830,590	-	34	1,828,476	164,062,338	2,280,064,418
2109	2,280,064,418	-	18	1,887,901	176,633,201	2,454,809,699
2110	2,454,809,699	-	9	1,949,258	190,173,627	2,643,034,059
2111	2,643,034,059	-	5	2,012,609	204,758,606	2,845,780,051
2112	2,845,780,051	-	2	2,078,019	220,468,933	3,064,170,963
2113	3,064,170,963	-	2	2,145,555	237,391,661	3,299,417,067

**SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES
OF PROJECTED BENEFITS ENDING DECEMBER 31 FOR 2014 TO 2063**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected 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 All 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}
2014	\$ 108,231,641	\$ 3,153,284	\$ 3,153,284	\$ -	\$ 3,037,767	\$ -	\$ 3,037,767
2015	116,157,258	3,813,685	3,813,685	-	3,409,721	-	3,409,721
2016	126,607,804	4,375,248	4,375,248	-	3,630,442	-	3,630,442
2017	137,247,301	4,896,917	4,896,917	-	3,771,050	-	3,771,050
2018	148,137,573	5,471,764	5,471,764	-	3,910,656	-	3,910,656
2019	159,245,751	6,112,386	6,112,386	-	4,054,299	-	4,054,299
2020	170,508,224	6,759,463	6,759,463	-	4,161,021	-	4,161,021
2021	181,926,184	7,465,295	7,465,295	-	4,264,984	-	4,264,984
2022	193,442,896	8,221,405	8,221,405	-	4,359,123	-	4,359,123
2023	205,000,714	8,992,419	8,992,419	-	4,424,991	-	4,424,991
2024	216,575,500	9,855,249	9,855,249	-	4,500,763	-	4,500,763
2025	228,039,708	10,783,839	10,783,839	-	4,570,616	-	4,570,616
2026	239,290,169	11,728,851	11,728,851	-	4,613,595	-	4,613,595
2027	250,287,089	12,721,595	12,721,595	-	4,644,172	-	4,644,172
2028	260,944,189	13,820,075	13,820,075	-	4,682,307	-	4,682,307
2029	271,086,295	15,060,600	15,060,600	-	4,735,594	-	4,735,594
2030	280,479,855	16,370,811	16,370,811	-	4,777,328	-	4,777,328
2031	288,965,857	17,651,686	17,651,686	-	4,780,615	-	4,780,615
2032	296,488,139	18,877,221	18,877,221	-	4,744,805	-	4,744,805
2033	303,021,392	20,139,691	20,139,691	-	4,698,031	-	4,698,031
2034	308,433,259	21,398,828	21,398,828	-	4,632,717	-	4,632,717
2035	312,623,988	22,580,342	22,580,342	-	4,536,898	-	4,536,898
2036	315,582,398	23,719,262	23,719,262	-	4,422,954	-	4,422,954
2037	317,259,153	24,765,993	24,765,993	-	4,285,976	-	4,285,976
2038	317,664,195	25,640,902	25,640,902	-	4,118,224	-	4,118,224
2039	316,900,763	26,391,206	26,391,206	-	3,933,858	-	3,933,858
2040	315,025,426	26,994,524	26,994,524	-	3,734,374	-	3,734,374
2041	312,128,469	27,408,340	27,408,340	-	3,518,905	-	3,518,905
2042	308,362,387	27,680,625	27,680,625	-	3,298,249	-	3,298,249
2043	303,837,144	27,790,366	27,790,366	-	3,073,156	-	3,073,156
2044	298,697,313	27,763,943	27,763,943	-	2,849,405	-	2,849,405
2045	293,066,596	27,623,930	27,623,930	-	2,631,123	-	2,631,123
2046	287,049,157	27,377,026	27,377,026	-	2,420,052	-	2,420,052
2047	280,748,169	27,043,463	27,043,463	-	2,218,623	-	2,218,623
2048	274,248,800	26,634,125	26,634,125	-	2,027,880	-	2,027,880
2049	267,628,373	26,160,156	26,160,156	-	1,848,532	-	1,848,532
2050	260,955,648	25,631,092	25,631,092	-	1,680,879	-	1,680,879
2051	254,292,081	25,057,147	25,057,147	-	1,525,049	-	1,525,049
2052	247,690,798	24,448,753	24,448,753	-	1,380,993	-	1,380,993
2053	241,195,207	23,809,712	23,809,712	-	1,248,164	-	1,248,164
2054	234,847,561	23,147,076	23,147,076	-	1,126,150	-	1,126,150
2055	228,684,137	22,461,914	22,461,914	-	1,014,214	-	1,014,214
2056	222,742,887	21,755,992	21,755,992	-	911,684	-	911,684
2057	217,062,476	21,030,226	21,030,226	-	817,885	-	817,885
2058	211,683,422	20,285,037	20,285,037	-	732,162	-	732,162
2059	206,648,944	19,521,396	19,521,396	-	653,920	-	653,920
2060	202,004,510	18,740,126	18,740,126	-	582,598	-	582,598
2061	197,798,241	17,941,871	17,941,871	-	517,663	-	517,663
2062	194,081,310	17,127,293	17,127,293	-	458,618	-	458,618
2063	190,908,151	16,297,640	16,297,640	-	405,013	-	405,013

**SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES
OF PROJECTED BENEFITS ENDING DECEMBER 31 FOR 2064 TO 2113 (CONCLUDED)**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate	Present Value of Unfunded Benefit Payments using Municipal Bond Rate	Present Value of All Benefit Payments using Single Discount Rate
					(v)	(vf)	(SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)=((c)/(1+SDR))^(a)-.5
2064	\$ 188,336,108	\$ 15,455,085	\$ 15,455,085	\$ -	\$ 356,450	\$ -	\$ 356,450
2065	186,424,701	14,601,952	14,601,952	-	312,551	-	312,551
2066	185,235,634	13,740,119	13,740,119	-	272,950	-	272,950
2067	184,833,428	12,871,511	12,871,511	-	237,304	-	237,304
2068	185,285,590	11,998,449	11,998,449	-	205,297	-	205,297
2069	186,662,435	11,124,062	11,124,062	-	176,646	-	176,646
2070	189,036,459	10,252,337	10,252,337	-	151,094	-	151,094
2071	192,481,625	9,387,627	9,387,627	-	128,399	-	128,399
2072	197,073,088	8,534,954	8,534,954	-	108,340	-	108,340
2073	202,886,595	7,699,736	7,699,736	-	90,708	-	90,708
2074	209,998,123	6,887,167	6,887,167	-	75,300	-	75,300
2075	218,484,125	6,102,803	6,102,803	-	61,925	-	61,925
2076	228,421,190	5,353,089	5,353,089	-	50,411	-	50,411
2077	239,885,132	4,644,941	4,644,941	-	40,596	-	40,596
2078	252,950,439	3,984,258	3,984,258	-	32,317	-	32,317
2079	267,691,228	3,375,619	3,375,619	-	25,411	-	25,411
2080	284,182,580	2,822,002	2,822,002	-	19,716	-	19,716
2081	302,502,282	2,325,300	2,325,300	-	15,077	-	15,077
2082	322,732,160	1,886,633	1,886,633	-	11,353	-	11,353
2083	344,959,191	1,505,555	1,505,555	-	8,408	-	8,408
2084	369,277,529	1,180,631	1,180,631	-	6,119	-	6,119
2085	395,790,090	909,233	909,233	-	4,374	-	4,374
2086	424,610,463	687,238	687,238	-	3,068	-	3,068
2087	455,865,292	509,531	509,531	-	2,111	-	2,111
2088	489,696,314	370,468	370,468	-	1,425	-	1,425
2089	526,262,078	263,996	263,996	-	942	-	942
2090	565,739,672	184,345	184,345	-	611	-	611
2091	608,325,864	126,184	126,184	-	388	-	388
2092	654,238,174	84,677	84,677	-	242	-	242
2093	703,715,958	55,803	55,803	-	148	-	148
2094	757,021,264	36,184	36,184	-	89	-	89
2095	814,439,917	23,145	23,145	-	53	-	53
2096	876,282,632	14,623	14,623	-	31	-	31
2097	942,886,301	9,152	9,152	-	18	-	18
2098	1,014,615,409	5,682	5,682	-	10	-	10
2099	1,091,863,734	3,510	3,510	-	6	-	6
2100	1,175,056,259	2,156	2,156	-	3	-	3
2101	1,264,651,353	1,316	1,316	-	2	-	2
2102	1,361,143,180	797	797	-	1	-	1
2103	1,465,064,351	481	481	-	1	-	1
2104	1,576,988,826	292	292	-	0	-	0
2105	1,697,535,075	175	175	-	0	-	0
2106	1,827,369,503	104	104	-	0	-	0
2107	1,967,210,130	60	60	-	0	-	0
2108	2,117,830,590	34	34	-	0	-	0
2109	2,280,064,418	18	18	-	0	-	0
2110	2,454,809,699	9	9	-	0	-	0
2111	2,643,034,059	5	5	-	0	-	0
2112	2,845,780,051	2	2	-	0	-	0
2113	3,064,170,963	2	2	-	0	-	0
Totals					\$ 154,777,693	\$ -	\$ 154,777,693

SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

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

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	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).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	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.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Retirement Option Program (DROP)</i>	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.
<i>Deferred Inflows and Outflows</i>	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.
<i>Discount Rate</i>	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"> 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 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

GLOSSARY OF TERMS

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a cost 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.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>Long-Term Expected Rate of Return</i>	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.
<i>Money-Weighted Rate of Return</i>	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.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	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.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contribution Entities</i>	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 statements, plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

GLOSSARY OF TERMS

<i>Other Postemployment Benefits (OPEB)</i>	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.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	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"> 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.