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November 8, 2013

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, Kentucky 40601

Subject: Certification of Actuarial Results

Dear Members of the Board:

The fifty-seventh annual actuarial valuation of the Kentucky Employees Retirement System (KERS), the fifty-fourth annual actuarial valuation of the County Employees Retirement System (CERS), and the fifty-fifth annual actuarial valuation of the State Police Retirement System (SPRS) have been completed and the reports prepared. These reports describe the current actuarial condition of the Kentucky Retirement Systems (KRS), determine the calculated employer contribution rates, and analyze fluctuations in these contribution rates.

Under state statute, the Board of Trustees must approve the employer contribution rates for the upcoming fiscal year based upon the results of the most recent annual valuation. These rates are determined actuarially based upon current membership data, plan provisions, and the assumptions and funding policies adopted by the KRS Board. Employer contribution rates become effective one year after the valuation date. The recently completed June 30, 2013 actuarial valuation will be used by the Board of Trustees to certify the employer contribution rates for the fiscal year beginning July 1, 2014 and ending June 30, 2015. This same rate will be used for the fiscal year beginning July 1, 2015 and ending June 30, 2016 for KERS and SPRS.

Funding Objectives & Policies

For each retirement system, KRS administers both a pension and insurance fund to provide for monthly retirement allowances and retiree insurance benefits respectively. The total employer contribution rate is comprised of a contribution to each respective fund.

Relative to the pension fund, a contribution rate has been established which consists of the normal cost and an amortization payment on the unfunded accrued liability (UAL). The normal cost is expected to remain level as a percent of payroll in future years. The amortization of any UAL is made over 30 years from the establishment of the amortization base using a level percent of payroll amortization method. In accordance with the changes to statute made by SB2, the amortization period was reestablished as a closed 30 year period beginning with the June 30, 2013 actuarial valuation. The amortization period will decrease by one each year in the future.

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Overall, the total contribution for the pension fund is expected to remain stable as a percentage of payroll over future years in the absence of benefit improvements and material experience gains or losses.

Relative to the insurance fund, the Board's funding objective is to establish a contribution rate which consists of the normal cost and an amortization payment on the UAL over a 30-year period. Beginning with the June 30, 2006 valuation, the assumptions and methods used are to meet the requirements of GASB Statement No. 43. As with the pension fund, going forward, the UAL will be amortized over a 30-year period beginning June 30, 2013. The amortization period will decrease by one each year going forward.

Administrative expenses of the plans are also included as part of the total pension fund contribution. This portion of the funding is expected to remain stable as a percentage of payroll over future years.

The impact of HB1 passed into law in 2008 and SB2 passed into law in 2013 will be to eventually reduce the contribution rates otherwise required as more active members are covered under the lower benefit structure effective for those hired after August 31, 2008 and January 1, 2014. SB2 introduced a Cash Balance Plan for members hired on or after January 1, 2014. The cash balance plan limits the employers' exposure to increased contribution rates due to less than anticipated investment experience.

Progress towards Realization of Funding Objectives

The progress towards achieving the intended funding objectives, both relative to the pension and insurance funds, can be measured by the relationship of actuarial assets of each fund to the actuarial accrued liabilities. This relationship is known as the funding level and in the absence of benefit improvements, should increase over time until it reaches 100%.

In recent years, funding levels for the pension funds have fallen dramatically in response to investment returns less than the actuarially assumed rate, higher than anticipated retirement rates, the 2006 (and for KERS Hazardous and CERS Non-Hazardous the 2009) assumption changes, and increasing expenditures for retiree Cost of Living Adjustments (COLA). Within the KERS and SPRS plans, employer contribution rate reductions enacted by the State Legislature have severely limited the plans ability to correct the declining funding levels. SB 2 requires the state to contribute the full actuarially determined employer contribution rates compared to the HB 1 phase-in rates which would not have required the full actuarially determined employer contribution rate for many years. As of June 30, 2013 the funding levels for the pension funds are as follows:

System	Pension Funding Level
KERS Non-Hazardous Pension Fund	23.2%
KERS Hazardous Pension Fund	64.5%
CERS Non-Hazardous Pension Fund	60.1%
CERS Hazardous Pension Fund	57.7%
SPRS Pension Fund	37.1%



The Board's funding objective for the insurance funds is to increase the funded level consistently over time. As of June 30, 2013 the funding level for the insurance funds are as follows:

System	Insurance Funding Level
KERS Non-Hazardous Insurance Fund	23.4%
KERS Hazardous Insurance Fund	96.2%
CERS Non-Hazardous Insurance Fund	66.6%
CERS Hazardous Insurance Fund	62.1%
SPRS Insurance Fund	61.3%

Data

In completing the valuation of these systems, we have relied on data provided by Kentucky Retirement Systems, as well as financial data provided by the plan's external auditor. We have reviewed this data for reasonableness, and made some general edit checks to impute certain information that may not have been provided with the original employee data. However, we have not audited this data. Any schedules of trend data over the past ten years or less contained in the Actuarial Section, as well as the Schedule of Funding Progress and Schedule of Employer Contributions in the Financial Section, have been based on valuation reports fully prepared by the actuary for the plan at the time of each valuation.

Assumptions & Methods

The Board of Trustees, in consultation with the actuary, sets the actuarial assumptions and methods used in the valuation. At least once every five years the actuary conducts a thorough review of plan experience for the preceding five years, and then makes recommendations to the Board. The actuarial assumptions and methods used for the funding calculations of the valuation, as adopted by the Board on August 20, 2009 based on the experience investigation report dated August 17, 2009, meet the parameters set for disclosure under GASB Statements No. 25 and 43. These assumptions have been adopted by the Board of Trustees of the Kentucky Retirement Systems in accordance with the recommendation of the actuary. The next experience study is schedule to be completed in early 2014 and any adjustments will be reflected in the June 30, 2014 actuarial valuation.

Closing

The information presented in this letter describes the pertinent issues relative to the valuation. There are no other specific issues that need to be raised beyond these items in order to fairly assess the funded position of the plan as presented in the current valuation.



Based on the continuation of current funding policies adopted by the Board, adequate provision is being determined for the funding of the actuarial liabilities of the Kentucky Employees Retirement System, the County Employees Retirement System, and the State Police Retirement System as required by the Kentucky Revised Statutes. The funding rates established by the Board are appropriate for this purpose. However, it is up to the state legislature to follow through with the required funding. As noted above, SB2 calls for KERS and SPRS contributions at the actuarially determined rates beginning with fiscal year 2014-2015, which is a positive development for the long term sustainability of those systems. CERS has always received the actuarially determined contributions, and its sustainability is not in question.

Sincerely,

A handwritten signature in blue ink that reads 'Thomas J. Cavanaugh'.

Thomas J. Cavanaugh FSA, FCA, MAAA, EA
Chief Executive Officer

A handwritten signature in blue ink that reads 'Todd B. Green'.

Todd B. Green ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary



Summary of June 30, 2013 Actuarial Valuation Results

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
<u>Recommended Contribution Rate (Fiscal Year 2014-2015)</u>					
Pension Fund Contribution	30.84%	16.37%	12.75%	20.73%	53.90%
Insurance Fund Contribution	<u>7.93</u>	<u>9.97</u>	<u>5.35</u>	<u>14.97</u>	<u>21.86</u>
Recommended Employer Contribution	38.77%	26.34%	18.10%	35.70%	75.76%
<u>Funded Status as of Valuation Date</u>					
<i>Pension Fund</i>					
Actuarial Liability	\$11,386,602,159	\$783,980,594	\$9,378,876,114	\$3,124,205,593	\$651,580,654
Actuarial Value of Assets	2,636,122,852	505,656,808	5,637,094,483	1,801,691,410	241,800,328
Unfunded Actuarial Liability on Actuarial Value of Assets	8,750,479,307	278,323,786	3,741,781,631	1,322,514,183	409,780,326
Funding Level as a % of Actuarial Value of Assets	23.2%	64.5%	60.1%	57.7%	37.1%
Market Value of Assets	\$2,747,428,086	\$513,162,166	\$5,780,830,355	\$1,830,657,969	\$248,559,040
Unfunded Actuarial Liability on Market Value of Assets	8,639,174,073	270,818,428	3,598,045,759	1,293,547,624	403,021,614
Funding Level on Market Value of Assets	24.1%	65.5%	61.6%	58.6%	38.2%
<i>Insurance Fund</i>					
Actuarially Accrued Liability	\$ 2,128,754,134	\$ 385,517,675	\$ 2,443,894,100	\$ 1,437,332,817	\$ 222,326,743
Actuarial Value of Assets	497,584,327	370,774,403	1,628,244,197	892,774,391	136,321,060
Unfunded Actuarial Liability on Actuarial Value of Assets	1,631,169,807	14,743,272	815,649,903	544,558,426	86,005,683
Funding Level as a % of Actuarial Value of Assets	23.4%	96.2%	66.6%	62.1%	61.3%
Market Value of Assets	\$ 509,364,080	\$ 374,309,576	\$ 1,633,696,661	\$ 894,232,297	\$ 142,830,916
Unfunded Actuarial Liability on Market Value of Assets	1,619,390,054	11,208,099	810,197,439	543,100,520	79,495,827
Funding Level on Market Value of Assets	23.9%	97.1%	66.9%	62.2%	64.2%
<u>Member Data</u>					
Number of Active Members	42,226	4,127	81,815	9,123	902
Total Annual Payroll (Active Members)	\$1,644,408,698	\$132,015,368	\$2,236,277,489	\$461,672,567	\$45,256,202
Average Annual Pay (Active Members)	\$38,943	\$31,988	\$27,333	\$50,605	\$50,173
Number of Retired Members & Beneficiaries	40,194	3,430	47,676	7,293	1,346
Average Annual Retirement Allowance	\$21,698	\$14,905	\$11,704	\$25,042	\$37,820
Number of Vested Inactive Members	8,189	368	11,899	614	60



Cavanaugh Macdonald
CONSULTING, LLC

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**Report on the Annual Valuation of the
Kentucky Employees Retirement System**

Prepared as of June 30, 2013





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 8, 2013

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Dear Members of the Board:

Presented in this report are the results of the annual actuarial valuation of the retirement and insurance benefits provided under the Kentucky Employees Retirement System (KERS). The purpose of the valuation was to measure the System's funding progress and to determine the required employer contribution rates for the fiscal years beginning July 1, 2014 and July 1, 2015. The date of the valuation was June 30, 2013.

The valuation was based upon data, furnished by the Executive Director and the Kentucky Retirement Systems (KRS) staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the KRS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the summary of results on page 1 and the comments on page 6.

Since the previous valuation, certain provisions of Senate Bill 2 which impact current members of KRS have been reflected in the valuation where appropriate. Those that have an effect on the current members are as follows:

- The COLA provisions in current law are amended to require either greater than 100% funding or full pre-funding of any future COLA along with legislative action to provide a COLA. Previous legislation had suspended COLAs for Fiscal Years 2012-2013 and 2013-2014.
- The phase-in of employer contributions under KERS has been eliminated, requiring the full actuarial required contribution beginning in FY 2014-2015. Therefore, the discount rate used to value insurance liabilities in the KERS Non-Hazardous Plan has been increased from 4.50% to 7.75%.
- For FY 2014-2015 (the June 30, 2013 actuarial valuation), the amortization period for the unfunded accrued liability (UAL) of each system is reset to a closed 30 year period.

The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.

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To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Thomas J. Cavanaugh'.

Thomas J. Cavanaugh FSA, FCA, MAAA, EA
Chief Executive Officer

A handwritten signature in blue ink that reads 'Todd B. Green'.

Todd B. Green ASA, FCA, MAAA
Principal and Consulting Actuary

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Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

TJC/TBG/AB:kc



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**REPORT ON THE ANNUAL VALUATION OF THE
KENTUCKY EMPLOYEES RETIREMENT SYSTEM**

PREPARED AS OF JUNE 30, 2013

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2013, presents the results of the annual actuarial valuation of the retirement and insurance benefits provided under the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results, broken down between non-hazardous and hazardous members, are summarized in the following table. Since the previous valuation, the amortization period has been reset to a closed 30 year period and the discount rate used to value insurance liabilities in the non-hazardous plan has been increased from 4.50% to 7.75%.

SUMMARY OF PRINCIPAL RESULTS

	KERS Non-Hazardous		KERS Hazardous		KERS Totals	
	6/30/2013	6/30/2012	6/30/2013	6/30/2012	6/30/2013	6/30/2012
Contributions for next fiscal year:						
Retirement	30.84%	32.57%	16.37%	17.00%		
Insurance	<u>7.93</u>	<u>12.71</u>	<u>9.97</u>	<u>11.84</u>	N/A	N/A
Total	38.77%	45.28%	26.34%	28.84%		
Funded status as of valuation date:						
Retirement						
Actuarial accrued liability	\$11,386,602,159	\$11,361,048,136	\$783,980,594	\$752,699,457	\$12,170,582,752	\$12,113,747,593
Actuarial value of assets	2,636,122,852	3,101,316,738	505,656,808	497,226,296	3,141,779,660	3,598,543,034
Unfunded liability on actuarial value of assets	8,750,479,307	8,259,731,398	278,323,786	255,473,161	9,028,803,092	8,515,204,559
Funded ratio on actuarial value of assets	23.15%	27.30%	64.50%	66.06%	25.81%	29.71%
Market value of assets	\$2,747,428,086	\$2,980,401,603	\$513,162,166	\$478,103,794	\$3,260,590,252	\$3,458,505,397
Unfunded liability on market value of assets	8,639,174,073	8,380,646,533	270,818,428	274,595,663	8,909,992,500	8,655,242,196
Funded ratio on market value of assets	24.13%	26.23%	65.46%	63.52%	26.79%	28.55%
Insurance						
Actuarial accrued liability	\$2,128,754,134	\$3,125,330,157	\$385,517,675	\$384,592,406	\$2,514,271,809	\$3,509,922,563
Actuarial value of assets	497,584,327	446,080,511	370,774,403	345,573,948	868,358,730	791,654,459
Unfunded liability on actuarial value of assets	1,631,169,807	2,679,249,646	14,743,272	39,018,458	1,645,913,079	2,718,268,104
Funded ratio on actuarial value of assets	23.37%	14.27%	96.18%	89.85%	34.54%	22.55%
Market value of assets	\$509,364,080	\$430,805,726	\$374,309,576	\$333,298,119	\$883,673,656	\$764,103,845
Unfunded liability on market value of assets	1,619,390,054	2,694,524,431	11,208,099	51,294,287	1,630,598,153	2,745,818,718
Funded ratio on market value of assets	23.93%	13.78%	97.09%	86.66%	35.15%	21.77%
Demographic data as of valuation date:						
Number of retired participants and beneficiaries	40,194	39,226	3,430	3,253	43,624	42,479
Number of vested former members	8,189	8,976	368	347	8,557	9,323
Number of former members due a refund	35,857	35,130	3,117	2,821	38,974	37,951
Number of active members	42,226	42,196	4,127	4,086	46,353	46,282
Total salary	\$1,644,408,698	\$1,644,896,681	\$132,015,368	\$131,976,754	\$1,776,424,066	\$1,776,873,435
Average salary	\$38,943	\$38,982	\$31,988	\$32,300	\$38,324	\$38,392



2. The valuation balance sheets showing the results of the valuation are given in Schedule A.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section V, and the rates of contribution payable by employers are given in Section VI.
4. There were no changes in benefit provisions since the last valuation. However, the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky, has replaced the Plan Year 2013 health insurance plan options with new health insurance plan options for Plan Year 2014. The changes are summarized below.
 - The 2013 health insurance plan options, consisting of Commonwealth Capitol Choice, Commonwealth Optimum PPO and Commonwealth Standard PPO, have been replaced by two new Consumer-Driven Health Plans (CDHP) - LivingWell CDHP and Standard CDHP, and two new Preferred Provider Organization (PPO) plans - LivingWell PPO and Standard PPO.
5. The following changes have been reflected in this valuation in accordance with Senate Bill 2:
 - The amortization period was reset to a closed 30 year period.
 - Since full payment of the Annual Required Contribution is assumed, the insurance liabilities and insurance contribution rates for KERS Non-Hazardous reflect a 7.75% fully-funded interest rate.
6. The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
8. The investment rate of return for developing insurance liabilities and contribution rates shown in this report for KERS Non-Hazardous was 4.50% for June 30, 2012 and 7.75% for June 30, 2013. KERS Hazardous used an investment rate of return of 7.75% for both June 30, 2012 and June 30, 2013. The lower rate for KERS Non-Hazardous for June 30, 2012 was required under the parameters set by the Governmental Accounting Standards Board Statements 43 and 45 given the lack of pre-funding of insurance benefits.



SECTION II – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the system as of June 30, 2013 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.

Active Members

Employee Group	Number	Payroll	Group Averages		
			Salary	Age	Service
Non-Hazardous	42,226	\$1,644,408,698	\$38,943	44.5	10.1
Hazardous	4,127	132,015,368	31,988	40.6	7.2
Total in KERS	46,353	\$1,776,424,066	\$38,324	44.1	9.8

The following tables show a six-year history of active member valuation data.

SCHEDULE OF NON-HAZARDOUS KERS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2008	48,085	\$1,837,873,488	\$38,221	2.9%
6/30/2009	46,060	1,754,412,912	38,090	(0.3)
6/30/2010	47,090	1,815,146,388	38,546	1.2
6/30/2011	46,617	1,731,632,748	37,146	(3.6)
6/30/2012	42,196	1,644,896,681	38,982	4.9
6/30/2013	42,226	1,644,408,698	38,943	(0.1)

SCHEDULE OF HAZARDOUS KERS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2008	4,393	\$148,710,060	\$33,852	1.6%
6/30/2009	4,334	146,043,576	33,697	(0.5)
6/30/2010	4,291	143,557,944	33,456	(0.7)
6/30/2011	4,291	133,053,792	31,008	(7.3)
6/30/2012	4,086	131,976,754	32,300	4.2
6/30/2013	4,127	132,015,368	31,988	(1.0)



The following tables show the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date as well as certain group averages.

Non-Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits*	Group Averages	
			Benefit	Age
Retiree	34,058	\$788,668,748	\$23,157	67.4
Disability	1,868	25,601,341	13,705	64.3
Beneficiary	4,268	57,869,693	13,559	70.5
Total in KERS	40,194	\$872,139,782	\$21,698	67.6

* Does not include annual benefits for those members included in the Hazardous System who are also receiving a portion of their benefit from the Non Hazardous System

Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retiree	2,953	\$46,803,026	\$15,849	62.9
Disability	143	1,304,502	9,122	58.3
Beneficiary	334	3,014,928	9,027	63.0
Total in KERS	3,430	\$51,122,456	\$14,905	62.7

This valuation also includes 47,531 inactive members (44,046 Non-Hazardous and 3,485 Hazardous; of which 8,189 Non-Hazardous are vested and 368 Hazardous are vested).



SECTION III – ASSETS

- As of June 30, 2013 the total market value of assets amounted to \$4,144,263,908 as shown in the following table. The Insurance assets include both the amount in the health care trust and the amount in the 401(h) account in the pension trust established to meet the requirements of HB1.

**MARKET VALUE OF ASSETS BY FUND
AS OF JUNE 30, 2013**

Member Group	Retirement	Insurance	KERS Total
Non-Hazardous	\$2,747,428,086	\$509,364,080	\$3,256,792,166
Hazardous	<u>513,162,166</u>	<u>374,309,576</u>	<u>887,471,742</u>
Total	\$3,260,590,252	\$883,673,656	\$4,144,263,908

- The five-year smoothed market related actuarial value of assets used for the current valuation was \$4,010,138,390. Schedule B shows the development of the actuarial value of assets as of June 30, 2013. The following table shows the actuarial value of assets allocated among member groups.

COMPARISON OF ACTUARIAL VALUE OF ASSETS

	June 30, 2013	June 30, 2012
Retirement		
Non-Hazardous	\$ 2,636,122,852	\$ 3,101,316,738
Hazardous	<u>505,656,808</u>	<u>497,226,296</u>
Total	\$ 3,141,779,660	\$ 3,598,543,034
Insurance		
Non-Hazardous	\$ 497,584,327	\$ 446,080,511
Hazardous	<u>370,774,403</u>	<u>345,573,948</u>
Total	\$ 868,358,730	\$ 791,654,459
KERS Total		
Non-Hazardous	\$ 3,133,707,179	\$ 3,547,397,249
Hazardous	<u>876,431,211</u>	<u>842,800,244</u>
Total	\$ 4,010,138,390	\$ 4,390,197,493



SECTION IV - COMMENTS ON VALUATION

Schedule A of this report contains the valuation balance sheets which show the present and prospective assets and liabilities of the System as of June 30, 2013. Separate balance sheets are shown for each employee group as well as in total for Retirement and Insurance.

Retirement

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$13,552,865,615, of which \$8,986,162,124 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$268,758,031 is for the prospective benefits payable on account of present inactive members, and \$4,297,945,460 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$3,141,779,660 as of June 30, 2013. The difference of \$10,411,085,955 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$839,435,357 is the present value of future contributions expected to be made by members, and the balance of \$9,571,650,598 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of retirement benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 3.48% of payroll for non-hazardous members and 5.24% of payroll for hazardous members are required to fund the continuing benefit accruals for the average active member of KERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$542,847,506. When this amount is subtracted from \$9,571,650,598, which is the present value of the total future contributions to be made by the employers, there remains \$9,028,803,092 as the amount of future accrued liability contributions.
4. For non-hazardous members, it is recommended that the accrued liability contribution rate payable by the State on account of retirement benefits be set at 26.71% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the State on account of retirement benefits be set at 10.58% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$8,750,479,307 for non-hazardous members and \$278,323,786 for hazardous members over 30 years on the assumption that the aggregate payroll for non-hazardous and hazardous members will increase by 4.50% each year.
5. The contribution rate for administrative expenses is determined to be 0.65% of payroll for non-hazardous members and 0.55% of payroll for hazardous members.



Insurance

1. The total valuation balance sheet on account of insurance benefits shows that the System has total prospective insurance benefit liabilities of \$3,012,963,571, of which \$1,373,084,060 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$167,720,315 is for the prospective benefits payable on account of present inactive members, and \$1,472,159,196 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$868,358,730 as of June 30, 2013. The difference of \$2,144,604,841 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$41,946,391 is the present value of future contributions expected to be made by members, and the balance of \$2,102,658,450 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of insurance benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 2.69% of payroll for non-hazardous members and 9.27% of payroll for hazardous members are required to fund the continuing benefit accruals for the average active member of KERS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$456,745,371. When this amount is subtracted from \$2,102,658,450, which is the present value of the total future contributions to be made by the employers, there remains \$1,645,913,079 as the amount of future accrued liability contributions.
4. For non-hazardous members, it is recommended that the accrued liability contribution rate payable by the State on account of insurance benefits be set at 4.98% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the State on account of insurance benefits be set at 0.56% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$1,631,169,807 for non-hazardous members and \$14,743,272 for hazardous members over 30 years on the assumption that the aggregate payroll for non-hazardous and hazardous members will increase by 4.50% each year.
5. The contribution rate for administrative expenses is determined to be 0.26% of payroll for non-hazardous members and 0.14% of payroll for hazardous members.



SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2013 is shown below (\$ millions).

**Experience Gain/(Loss)
Retirement Benefits**

		Non-Hazardous Group		Hazardous Group		Total
(1)	UAAL* as of 6/30/12	\$ 8,259.7		\$ 255.5		\$ 8,515.2
(2)	Normal cost from last valuation	152.4		18.6		171.0
(3)	Contributions	377.6		38.8		416.4
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	637.3		19.7		657.0
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 8,671.8		\$ 255.0		\$ 8,926.8
(6)	Change due to plan amendments	0.0		0.0		0.0
(7)	Change due to new actuarial assumption or methods	0.0		0.0		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 8,671.8		\$ 255.0		\$ 8,926.8
(9)	Actual UAAL as of 6/30/13	\$ 8,750.5		\$ 278.3		\$ 9,028.8
(10)	Gain/(loss): (8) - (9)	\$ (78.7)		\$ (23.3)		\$ (102.0)
(11)	Accrued liabilities as of 6/30/12	\$ 11,361.0		\$ 752.7		\$ 12,113.7
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(0.7%)		(3.1%)		(0.8%)

*Unfunded actuarial accrued liability



**Experience Gain/(Loss)
Insurance Benefits**

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/12	\$ 2,679.2	\$ 39.0	\$ 2,718.2
(2)	Normal cost from last valuation	96.7	13.1	109.8
(3)	Expected employer contributions	<u>203.9</u>	<u>15.3</u>	<u>219.2</u>
(4)	Interest accrual: Non-Haz: [(1) + (2) - (3)] x .045 Haz: [(1) + (2) - (3)] x .0775	115.7	2.9	118.6
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 2,687.7	\$ 39.7	\$ 2,727.4
(6)	Change due to plan amendments	0.0	0.0	0.0
(7)	Change due to new actuarial assumption or methods**	(1,014.4)	0.0	(1,014.4)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 1,673.3	\$ 39.7	\$ 1,713.0
(9)	Actual UAAL as of 6/30/13	\$ 1,631.2	\$ 14.7	\$ 1,645.9
(10)	Gain/(loss): (8) - (9)	\$ 42.1	\$ 25.0	\$ 67.1
(11)	Accrued liabilities as of 6/30/12	\$ 3,125.3	\$ 384.6	\$ 3,509.9
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	1.3%	6.5%	1.9%

* *Unfunded actuarial accrued liability*

** *Gain due to change in Non-Hazardous discount rate from 4.50% to 7.75%*



**NON-HAZARDOUS KERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (112.6)	\$ (29.3)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(26.8)	(2.8)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.6)	(1.4)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	72.2	24.2
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	81.9	41.2
New Members. Additional unfunded accrued liability will produce a loss.	(13.2)	(3.7)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(165.5)	(24.9)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	16.8	54.2
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>69.1</u>	<u>(15.4)</u>
Gain (or Loss) During Year From Financial Experience	\$ (78.7)	\$ 42.1
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>1,014.4</u>
Composite Gain (or Loss) During Year	\$ (78.7)	\$ 1,056.5



**HAZARDOUS KERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (16.7)	\$ 2.0
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3.0)	(0.2)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.1	0.0
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	16.6	9.3
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	6.3	10.8
New Members. Additional unfunded accrued liability will produce a loss.	(3.4)	(3.2)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(16.0)	(11.6)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	2.2	6.1
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>(9.4)</u>	<u>11.8</u>
Gain (or Loss) During Year From Financial Experience	\$ (23.3)	\$ 25.0
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	\$ (23.3)	\$ 25.0



**TOTAL KERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (129.3)	\$ (27.3)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(29.8)	(3.0)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.5)	(1.4)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	88.9	33.5
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	88.2	52.0
New Members. Additional unfunded accrued liability will produce a loss.	(16.6)	(6.9)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(181.5)	(36.5)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	19.0	60.3
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>59.7</u>	<u>(3.6)</u>
Gain (or Loss) During Year From Financial Experience	\$ (102.0)	\$ 67.1
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>1,014.4</u>
Composite Gain (or Loss) During Year	\$ (102.0)	\$ 1,081.5



SECTION VI – REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following tables show the rates of contribution payable by employers as determined from the present valuation for the 2014/2015 fiscal year.

**Required Contribution Rates
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 127,085,518	7.73%
(2) Disability benefits	10,341,322	0.63
(3) Survivor benefits	2,058,452	0.13
(4) Total	\$ 139,485,292	8.48%
B. Member Contributions	\$ 82,220,435	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 57,264,857	3.48%
D. Administrative Expenses	\$ 10,718,851	0.65%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/12 Valuation:	\$ 465,690,781	28.31%
(2) Change due to:		
a. Active decrements	\$ 3,404,619	0.21%
b. Pay increases	(4,109,244)	(0.25)
c. Retiree mortality	(845,264)	(0.05)
d. Investment return	8,305,206	0.51
e. COLA	0	0.00
f. Assumption Change	0	0.00
g. Other	(33,287,125)	(2.03)
h. Total Change	\$ (26,531,808)	(1.60)%
(3) UAAL Contribution Based on 6/30/13 Valuation: [E(1) +E(2)h]	\$ 439,158,973	26.71%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 507,142,681	30.84%

**Based on 25 year amortization of the UAAL from June 30, 2012 reset to 30 years as of June 30, 2013*



**Required Contribution Rates
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 16,089,464	12.25%
(2) Disability benefits	1,078,265	0.80
(3) Survivor benefits	308,793	0.22
(4) Total	<u>\$ 17,476,522</u>	<u>13.24%</u>
B. Member Contributions	\$ 10,561,229	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 6,915,293	5.24%
D. Administrative Expenses	\$ 726,085	0.55%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/12 Valuation:	\$ 14,403,797	10.91%
(2) Change due to:		
a. Active decrements	\$ 147,264	0.11%
b. Pay increases	(315,881)	(0.24)
c. Retiree mortality	(107,988)	(0.08)
d. Investment return	804,420	0.61
e. COLA	0	0.00
f. Assumption Change	0	0.00
g. Other	(963,419)	(0.74)
h. Total Change	<u>\$ (435,604)</u>	<u>(0.33)%</u>
(3) UAAL Contribution Based on 6/30/13 Valuation: [E(1) +E(2)h]	\$ 13,968,193	10.58%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 21,609,571	16.37%

**Based on 25 year amortization of the UAAL from June 30, 2012 reset to 30 years as of June 30, 2013*



**Required Contribution Rates
Non-Hazardous Insurance**

	Contribution for	Amount	% of Payroll
A.	Normal Cost:	\$ 47,595,433	2.89%
B.	Member Contributions*	\$ 3,288,817	0.20%
C.	Employer Normal Cost: [A - B]	\$ 44,306,616	2.69%
D.	Administrative Expenses	\$ 4,285,139	0.26%
E.	Unfunded Actuarial Accrued Liability**:	\$ 81,863,271	4.98%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 130,455,026	7.93%

**The liabilities are net of retiree contributions towards their healthcare.*

*** Based on 30 year amortization of the UAAL from June 30, 2013*

**Required Contribution Rates
Hazardous Insurance**

	Contribution for	Amount	% of Payroll
A.	Normal Cost:	\$ 12,642,398	9.58%
B.	Member Contributions*	\$ 409,248	0.31%
C.	Employer Normal Cost: [A - B]	\$ 12,233,150	9.27%
D.	Administrative Expenses	\$ 178,870	0.14%
E.	Unfunded Actuarial Accrued Liability**:	\$ 739,918	0.56%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 13,151,938	9.97%

**The liabilities are net of retiree contributions towards their healthcare.*

*** Based on 30 year amortization of the UAAL from June 30, 2013*



SECTION VII - ACCOUNTING INFORMATION

Governmental Accounting Standards Board Statements 25, 27, 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF JUNE 30, 2013**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	40,194	3,430	43,624
Terminated employees entitled to benefits but not yet receiving benefits	44,046	3,485	47,531
Active Members	<u>42,226</u>	<u>4,127</u>	<u>46,353</u>
Total	126,466	11,042	137,508

Another such item is the Schedule of Funding Progress for retirement and insurance benefits separately as shown in the following tables.



**RETIREMENT BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c))
Non-Hazardous Members						
6/30/2008	\$ 5,318,792,893	\$ 10,129,689,985	\$ 4,810,897,092	52.5%	\$ 1,837,873,488	261.8%
6/30/2009	4,794,611,365	10,658,549,532	5,863,938,167	45.0	1,754,412,912	334.2
6/30/2010	4,210,215,585	11,004,795,089	6,794,579,504	38.3	1,815,146,388	374.3
6/30/2011	3,726,986,087	11,182,142,032	7,455,155,945	33.3	1,731,632,748	430.5
6/30/2012	3,101,316,738	11,361,048,136	8,259,731,398	27.3	1,644,896,681	502.1
6/30/2013	2,636,122,852	11,386,602,159	8,750,479,307	23.2	1,644,408,698	532.1
Hazardous Members						
6/30/2008	\$ 502,132,214	\$ 618,010,827	\$ 115,878,613	81.2%	\$ 148,710,060	77.9%
6/30/2009	502,503,287	674,411,781	171,908,494	74.5	146,043,576	117.7
6/30/2010	502,729,009	688,149,451	185,420,442	73.1	143,557,944	129.2
6/30/2011	510,748,505	721,293,444	210,544,939	70.8	133,053,792	158.2
6/30/2012	497,226,296	752,699,457	255,473,161	66.1	131,976,754	193.6
6/30/2013	505,656,808	783,980,594	278,323,786	64.5	132,015,368	210.8
Total KERS Members						
6/30/2008	\$ 5,820,925,107	\$ 10,747,700,812	\$ 4,926,775,705	54.2%	\$ 1,986,583,548	248.0%
6/30/2009	5,297,114,652	11,332,961,313	6,035,846,661	46.7	1,900,456,488	317.6
6/30/2010	4,712,944,594	11,692,944,540	6,979,999,946	40.3	1,958,704,332	356.4
6/30/2011	4,237,734,592	11,903,435,476	7,665,700,884	35.6	1,864,686,540	411.1
6/30/2012	3,598,543,034	12,113,747,593	8,515,204,559	29.7	1,776,873,435	479.2
6/30/2013	3,141,779,660	12,170,582,752	9,028,803,092	25.8	1,776,424,066	508.3



**INSURANCE BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c))
Non-Hazardous Members						
6/30/2008	\$ 603,197,761	\$ 5,431,499,285	\$ 4,828,301,524	11.1%	\$ 1,837,873,488	262.7%
6/30/2009	534,172,580	4,507,325,571	3,973,152,991	11.9	1,754,412,912	226.5
6/30/2010	471,341,628	4,466,136,041	3,994,794,413	10.6	1,815,146,388	220.1
6/30/2011	451,620,442	4,280,089,633	3,828,469,191	10.6	1,731,632,748	221.1
6/30/2012	446,080,511	3,125,330,157	2,679,249,646	14.3	1,644,896,681	162.9
6/30/2013*	497,584,327	2,128,754,134	1,631,169,807	23.4	1,644,408,698	99.2
Hazardous Members						
6/30/2008	\$ 288,161,759	\$ 541,657,214	\$ 253,495,455	53.2%	\$ 148,710,060	170.5%
6/30/2009	301,634,592	491,132,170	189,497,578	61.4	146,043,576	129.8
6/30/2010	314,427,296	493,297,529	178,870,233	63.7	143,557,944	124.6
6/30/2011	329,961,615	507,058,767	177,097,152	65.1	133,053,792	133.1
6/30/2012	345,573,948	384,592,406	39,018,458	89.9	131,976,754	29.6
6/30/2013	370,774,403	385,517,675	14,743,272	96.2	132,015,368	11.2
Total KERS Members						
6/30/2008	\$ 891,359,520	\$ 5,973,156,499	\$ 5,081,796,979	14.9%	\$ 1,986,583,548	255.8%
6/30/2009	835,807,172	4,998,457,741	4,162,650,569	16.7	1,900,456,488	219.0
6/30/2010	785,768,924	4,959,433,570	4,173,664,646	15.8	1,958,704,332	213.1
6/30/2011	781,582,057	4,787,148,400	4,005,566,343	16.3	1,864,686,540	214.8
6/30/2012	791,654,459	3,509,922,563	2,718,268,104	22.6	1,776,873,435	153.0
6/30/2013	868,358,730	2,514,271,809	1,645,913,079	34.5	1,776,424,066	92.7

* Discount rate changed from 4.50% to 7.75%



RETIREMENT BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended	Annual Required Contribution	Actual Contributions	Percentage Contributed
Non-Hazardous Members			
June 30, 2008	\$264,742,985	\$104,655,217	39.5%
June 30, 2009	294,495,010	112,383,083	38.2
June 30, 2010	348,494,678	144,050,560	41.3
June 30, 2011	381,915,236	193,754,471	50.7
June 30, 2012	441,094,470	214,786,132	48.7
June 30, 2013	485,395,934	280,874,152	57.9
Hazardous Members			
June 30, 2008	\$14,147,341	\$15,257,079	107.8%
June 30, 2009	15,708,254	15,843,289	100.9
June 30, 2010	17,814,630	17,658,058	99.1
June 30, 2011	20,605,070	19,140,508	92.9
June 30, 2012	20,264,754	20,808,540	102.7
June 30, 2013	21,501,581	27,333,681	127.1
Total KERS Members			
June 30, 2008	\$278,890,326	\$119,912,296	43.0%
June 30, 2009	310,203,264	128,226,372	41.3
June 30, 2010	366,309,308	161,708,618	44.1
June 30, 2011	402,520,306	212,894,979	52.9
June 30, 2012	461,359,224	235,594,672	51.1
June 30, 2013	506,905,515	308,207,833	60.8



**INSURANCE BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Year Ended	Annual Required Contribution	Retiree Drug Subsidy (RDS) Contribution	Employer Contributions	Total Contributions	Percentage Contributed
Non-Hazardous Members					
June 30, 2008	\$558,745,820	\$6,633,538	\$56,744,942	\$ 63,378,480	11.3%
June 30, 2009	362,707,378	8,167,982	74,542,932	82,710,914	22.8
June 30, 2010	376,556,187	8,550,914	93,976,917	102,527,831	27.2
June 30, 2011	294,897,813	0	129,335,552	129,335,552	43.9
June 30, 2012	297,904,224	0	156,057,216	156,057,216	52.4
June 30, 2013	286,143,134	0	165,330,557	165,330,557	57.8
Hazardous Members					
June 30, 2008	\$51,214,929	\$73,891	\$21,997,341	\$22,071,232	43.1%
June 30, 2009	34,670,467	186,081	20,807,204	20,993,285	60.6
June 30, 2010	35,045,278	319,059	21,921,535	22,240,594	63.5
June 30, 2011	29,585,257	0	19,952,580	19,952,580	67.4
June 30, 2012	28,326,206	0	24,538,087	24,538,087	86.6
June 30, 2013	26,252,911	0	25,682,403	25,682,403	97.8
Total KERS Members					
June 30, 2008	\$609,960,749	\$6,707,429	\$ 78,742,283	\$ 85,449,712	14.0%
June 30, 2009	397,377,845	8,354,063	95,350,136	103,704,199	26.1
June 30, 2010	411,601,465	8,869,973	115,898,452	124,768,425	30.3
June 30, 2011	324,483,070	0	149,288,132	149,288,132	46.0
June 30, 2012	326,230,430	0	180,595,303	180,595,303	55.4
June 30, 2013	312,396,045	0	191,012,960	191,012,960	61.1



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2013. Additional information as of the latest actuarial valuation follows.

Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2013	6/30/2013
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	30 years	30 years
Asset valuation method	5 Year Smoothed Market	5 Year Smoothed Market
Actuarial assumptions		
Investment rate of return*	7.75%	7.75%
Projected salary increases**	5.0% - 17.0%	5.0% - 21.0%
Cost-of-living adjustment	None	None
*Includes price inflation at	3.50%	3.50%
**Includes wage inflation at	4.50%	4.50%

Insurance Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2013	6/30/2013
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	30 years	30 years
Asset valuation method	5 Year Smoothed Market	5 Year Smoothed Market
Medical Trend Assumption (Pre-Medicare)	8.5% - 5.0%	8.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	7.0% - 5.0%	7.0% - 5.0%
Year Ultimate Trend	2019	2019
Actuarial assumptions:		
Investment rate of return*	7.75%	7.75%
*Includes price inflation at	3.50%	3.50%



SCHEDULE A

Valuation Balance Sheet and Solvency Test

The following valuation balance sheets show the assets and liabilities of the retirement system as of the current valuation date of June 30, 2013 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2012. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date.

VALUATION BALANCE SHEETS SHOWING THE ASSETS AND LIABILITIES OF THE KENTUCKY EMPLOYEES RETIREMENT SYSTEM

RETIREMENT BENEFITS NON-HAZARDOUS KERS MEMBERS

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 2,636,122,852	\$ 3,101,316,738
Prospective contributions		
Member contributions	\$ 748,898,753	\$ 751,281,602
Employer normal contributions	483,225,184	519,955,001
Unfunded accrued liability contributions	<u>8,750,479,307</u>	<u>8,259,731,398</u>
Total prospective contributions	<u>\$ 9,982,603,244</u>	<u>\$ 9,530,968,001</u>
Total assets	<u>\$ 12,618,726,096</u>	<u>\$ 12,632,284,739</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,457,981,441	\$ 8,473,263,446
Present value of benefits payable on account of active members	3,909,402,474	3,923,748,401
Present value of benefits payable on account of inactive members	<u>251,342,181</u>	<u>235,272,892</u>
Total liabilities	<u>\$ 12,618,726,096</u>	<u>\$ 12,632,284,739</u>



**VALUATION BALANCE SHEET
RETIREMENT BENEFITS
HAZARDOUS KERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 505,656,808	\$ 497,226,296
Prospective contributions		
Member contributions	\$ 90,536,604	\$ 89,828,416
Employer normal contributions	59,622,322	62,169,684
Unfunded accrued liability contributions	<u>278,323,786</u>	<u>255,473,161</u>
Total prospective contributions	<u>\$ 428,482,712</u>	<u>\$ 407,471,261</u>
 Total assets	 <u><u>\$ 934,139,520</u></u>	 <u><u>\$ 904,697,557</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 528,180,683	\$ 508,171,821
 Present value of benefits payable on account of active members	 388,542,986	 383,008,754
 Present value of benefits payable on account of inactive members	 <u>17,415,851</u>	 <u>13,516,982</u>
 Total liabilities	 <u><u>\$ 934,139,520</u></u>	 <u><u>\$ 904,697,557</u></u>



**VALUATION BALANCE SHEET
RETIREMENT BENEFITS
TOTAL KERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 3,141,779,660	\$ 3,598,543,034
Prospective contributions		
Member contributions	\$ 839,435,357	\$ 841,110,018
Employer normal contributions	542,847,506	582,124,685
Unfunded accrued liability contributions	<u>9,028,803,092</u>	<u>8,515,204,559</u>
Total prospective contributions	<u>\$ 10,411,085,955</u>	<u>\$ 9,938,439,262</u>
 Total assets	 <u><u>\$ 13,552,865,615</u></u>	 <u><u>\$ 13,536,982,296</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,986,162,124	\$ 8,981,435,267
 Present value of benefits payable on account of active members	 4,297,945,460	 4,306,757,155
 Present value of benefits payable on account of inactive members	 <u>268,758,031</u>	 <u>248,789,874</u>
 Total liabilities	 <u><u>\$ 13,552,865,615</u></u>	 <u><u>\$ 13,536,982,296</u></u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
NON-HAZARDOUS KERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 497,584,327	\$ 446,080,511
Prospective contributions		
Member contributions	\$ 37,703,377	\$ 44,118,830
Employer normal contributions	365,769,800	1,052,410,976
Unfunded accrued liability contributions	<u>1,631,169,807</u>	<u>2,679,249,646</u>
Total prospective contributions	<u>\$ 2,034,642,984</u>	<u>\$ 3,775,779,452</u>
 Total assets	 <u><u>\$ 2,532,227,311</u></u>	 <u><u>\$ 4,221,859,963</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,187,225,490	\$ 1,617,674,784
 Present value of benefits payable on account of active members	 1,193,454,451	 2,297,791,340
 Present value of benefits payable on account of inactive members	 <u>151,547,370</u>	 <u>306,393,839</u>
 Total liabilities	 <u><u>\$ 2,532,227,311</u></u>	 <u><u>\$ 4,221,859,963</u></u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
HAZARDOUS KERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 370,774,403	\$ 345,573,948
Prospective contributions		
Member contributions	\$ 4,243,014	\$ 3,297,492
Employer normal contributions	90,975,571	100,434,346
Unfunded accrued liability contributions	<u>14,743,272</u>	<u>39,018,458</u>
Total prospective contributions	<u>\$ 109,961,857</u>	<u>\$ 142,750,296</u>
 Total assets	 <u>\$ 480,736,260</u>	 <u>\$ 488,324,244</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 185,858,570	\$ 180,374,759
 Present value of benefits payable on account of active members	 278,704,745	 291,745,309
 Present value of benefits payable on account of inactive members	 <u>16,172,945</u>	 <u>16,204,176</u>
 Total liabilities	 <u>\$ 480,736,260</u>	 <u>\$ 488,324,244</u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
TOTAL KERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 868,358,730	\$ 791,654,459
Prospective contributions		
Member contributions	\$ 41,946,391	\$ 47,416,322
Employer normal contributions	456,745,371	1,152,845,322
Unfunded accrued liability contributions	<u>1,645,913,079</u>	<u>2,718,268,104</u>
Total prospective contributions	<u>\$ 2,144,604,841</u>	<u>\$ 3,918,529,748</u>
 Total assets	 <u><u>\$ 3,012,963,571</u></u>	 <u><u>\$ 4,710,184,207</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,373,084,060	\$ 1,798,049,543
 Present value of benefits payable on account of active members	 1,472,159,196	 2,589,536,649
 Present value of benefits payable on account of inactive members	 <u>167,720,315</u>	 <u>322,598,015</u>
 Total liabilities	 <u><u>\$ 3,012,963,571</u></u>	 <u><u>\$ 4,710,184,207</u></u>



The following tables provide the solvency test for non-hazardous and hazardous KERS members.

**Solvency Test
Retirement Benefits
Non-Hazardous KERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2008	\$ 875,178,068	\$ 7,162,496,700	\$ 2,092,015,217	\$ 5,318,792,893	100.0%	62.0%	0.0%
6/30/2009	793,574,765	8,205,155,691	1,659,819,076	4,794,611,365	100.0	48.8	0.0
6/30/2010	869,484,042	8,329,757,802	1,805,553,245	4,210,215,585	100.0	40.1	0.0
6/30/2011	916,568,932	8,482,714,356	1,782,858,744	3,726,986,087	100.0	33.1	0.0
6/30/2012	885,137,183	8,708,536,338	1,767,374,615	3,101,316,738	100.0	25.4	0.0
6/30/2013	922,928,027	8,709,323,622	1,754,350,510	2,636,122,852	100.0	19.7	0.0

**Solvency Test
Retirement Benefits
Hazardous KERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2008	\$ 89,590,638	\$ 355,771,877	\$ 172,648,312	\$ 502,132,214	100.0%	100.0%	32.9%
6/30/2009	87,779,938	413,972,356	172,659,487	502,503,287	100.0	100.0	0.4
6/30/2010	88,511,283	441,657,241	157,980,927	502,729,009	100.0	93.8	0.0
6/30/2011	86,614,205	490,395,078	144,284,161	510,748,505	100.0	86.5	0.0
6/30/2012	82,100,877	521,688,803	148,909,777	497,226,296	100.0	79.6	0.0
6/30/2013	82,145,602	545,596,534	156,238,458	505,656,808	100.0	77.6	0.0



**Solvency Test
Insurance Benefits
Non-Hazardous KERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 0	\$ 2,788,189,754	\$ 2,643,309,531	\$ 603,197,761	100.0%	21.6%	0.0%
6/30/2009	0	2,861,867,088	1,645,458,483	534,172,580	100.0	18.7	0.0
6/30/2010	0	2,744,534,054	1,721,601,987	471,341,628	100.0	17.2	0.0
6/30/2011	0	2,568,002,978	1,712,086,655	451,620,442	100.0	17.6	0.0
6/30/2012	0	1,924,068,623	1,201,261,534	446,080,511	100.0	23.2	0.0
6/30/2013	0	1,338,772,860	789,981,274	497,584,327	100.0	37.2	0.0

**Solvency Test
Insurance Benefits
Hazardous KERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 0	\$ 228,834,940	\$ 312,822,274	\$ 288,161,759	100.0%	100.0%	19.0%
6/30/2009	0	242,123,365	249,008,805	301,634,592	100.0	100.0	23.9
6/30/2010	0	268,510,709	224,786,820	314,427,296	100.0	100.0	20.4
6/30/2011	0	285,539,861	221,518,906	329,961,615	100.0	100.0	20.1
6/30/2012	0	196,578,935	188,013,471	345,573,948	100.0	100.0	79.2
6/30/2013	0	202,031,515	183,486,160	370,774,403	100.0	100.0	92.0

SCHEDULE B

**Development of Actuarial Value of Assets
Retirement Benefits
Non-Hazardous Members**



Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 3,726,986,087	\$ 3,101,316,738				
B. Market Value End of Year	2,980,401,603	2,747,428,086				
C. Market Value Beginning of Year	3,538,878,093	2,980,401,603				
D. Cash Flow						
D1. Contributions	311,192,306	377,617,564				
D2. Benefit Payments	(878,583,454)	(886,812,291)				
D3. Administrative Expenses	(8,907,777)	(10,718,851)				
D4. Investment Expenses	<u>(11,549,725)</u>	<u>(12,324,984)</u>				
D5. Net	(587,848,650)	(532,238,562)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	29,372,160	299,265,045				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	263,481,194	223,159,457				
E4. Amount for Phased-In Recognition	(234,109,034)	76,105,588				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(46,821,807)	15,221,118	0	0	0	0
F2. First Prior Year	68,172,485	(46,821,807)	15,221,118	0	0	0
F3. Second Prior Year	54,541,214	68,172,485	(46,821,807)	15,221,118	0	0
F4. Third Prior Year	(247,227,791)	54,541,214	68,172,485	(46,821,807)	15,221,118	0
F5. Fourth Prior Year	<u>(129,965,994)</u>	<u>(247,227,791)</u>	<u>54,541,214</u>	<u>68,172,485</u>	<u>(46,821,807)</u>	<u>15,221,118</u>
F6. Total Recognized Investment Gain	(301,301,893)	(156,114,781)	91,113,010	36,571,796	(31,600,689)	15,221,118
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 3,101,316,738	\$ 2,636,122,852				
H. Difference Between Market & Actuarial Values	\$ (120,915,135)	\$ 111,305,234	\$ 20,192,224	\$ (16,379,572)	\$ 15,221,118	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**Development of Actuarial Value of Assets
Retirement Benefits
Hazardous Members**

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 510,748,505	\$ 497,226,296				
B. Market Value End of Year	478,103,794	513,162,166				
C. Market Value Beginning of Year	510,628,492	478,103,794				
D. Cash Flow						
D1. Contributions	32,590,014	38,798,624				
D2. Benefit Payments	(54,927,682)	(51,616,993)				
D3. Administrative Expenses	(887,975)	(732,555)				
D4. Investment Expenses	<u>(1,460,743)</u>	<u>(1,815,898)</u>				
D5. Net	(24,686,386)	(15,366,822)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(7,838,312)	50,425,194				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	40,134,457	38,343,844				
E4. Amount for Phased-In Recognition	(47,972,769)	12,081,350				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(9,594,554)	2,416,270	0	0	0	0
F2. First Prior Year	9,718,299	(9,594,554)	2,416,270	0	0	0
F3. Second Prior Year	7,187,340	9,718,299	(9,594,554)	2,416,270	0	0
F4. Third Prior Year	(24,273,865)	7,187,340	9,718,299	(9,594,554)	2,416,270	0
F5. Fourth Prior Year	<u>(12,007,500)</u>	<u>(24,273,865)</u>	<u>7,187,340</u>	<u>9,718,299</u>	<u>(9,594,554)</u>	<u>2,416,270</u>
F6. Total Recognized Investment Gain	(28,970,280)	(14,546,510)	9,727,355	2,540,015	(7,178,284)	2,416,270
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 497,226,296	\$ 505,656,808				
H. Difference Between Market & Actuarial Values	\$ (19,122,502)	\$ 7,505,358	\$ (2,221,997)	\$ (4,762,012)	\$ 2,416,270	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**Development of Actuarial Value of Assets
Insurance Benefits
Non-Hazardous Members**

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 451,620,442	\$ 446,080,511				
B. Market Value End of Year	430,805,726	509,364,080				
C. Market Value Beginning of Year	433,305,243	430,805,726				
D. Cash Flow						
D1. Contributions	181,479,543	184,673,842				
D2. Benefit Payments	(163,840,752)	(140,156,341)				
D3. Administrative Expenses	(5,070,370)	(4,285,139)				
D4. Investment Expenses	<u>(1,195,793)</u>	<u>(1,570,529)</u>				
D5. Net	11,372,628	38,661,833				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(13,872,145)	39,896,521				
E2. Assumed Rate	4.50%	7.75%				
E3. Amount for Immediate Recognition	20,977,318	36,516,977				
E4. Amount for Phased-In Recognition	(34,849,463)	3,379,544				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(6,969,893)	675,909	0	0	0	0
F2. First Prior Year	11,459,921	(6,969,893)	675,909	0	0	0
F3. Second Prior Year	7,065,952	11,459,921	(6,969,893)	675,909	0	0
F4. Third Prior Year	(35,906,883)	7,065,952	11,459,921	(6,969,893)	675,909	0
F5. Fourth Prior Year	<u>(13,538,974)</u>	<u>(35,906,883)</u>	<u>7,065,952</u>	<u>11,459,921</u>	<u>(6,969,893)</u>	<u>675,909</u>
F6. Total Recognized Investment Gain	(37,889,877)	(23,674,994)	12,231,889	5,165,937	(6,293,984)	675,909
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 446,080,511	\$ 497,584,327				
H. Difference Between Market & Actuarial Values	\$ (15,274,785)	\$ 11,779,753	\$ (452,136)	\$ (5,618,073)	\$ 675,909	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**Development of Actuarial Value of Asset
Insurance Benefits
Hazardous Members**

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 329,961,615	\$ 345,573,948				
B. Market Value End of Year	333,298,119	374,309,576				
C. Market Value Beginning of Year	321,071,515	333,298,119				
D. Cash Flow						
D1. Contributions	25,856,162	26,684,555				
D2. Benefit Payments	(13,940,467)	(16,836,455)				
D3. Administrative Expenses	(322,727)	(178,870)				
D4. Investment Expenses	<u>(857,285)</u>	<u>(1,018,077)</u>				
D5. Net	10,735,683	8,651,153				
E. Investment Income						
E1. Market Total: B.-C.-D5.	1,490,921	32,360,304				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	26,189,555	27,223,364				
E4. Amount for Phased-In Recognition	(24,698,634)	5,136,940				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(4,939,727)	1,027,388	0	0	0	0
F2. First Prior Year	4,619,785	(4,939,727)	1,027,388	0	0	0
F3. Second Prior Year	5,005,228	4,619,785	(4,939,727)	1,027,388	0	0
F4. Third Prior Year	(16,386,736)	5,005,228	4,619,785	(4,939,727)	1,027,388	0
F5. Fourth Prior Year	<u>(9,611,455)</u>	<u>(16,386,736)</u>	<u>5,005,228</u>	<u>4,619,785</u>	<u>(4,939,727)</u>	<u>1,027,388</u>
F6. Total Recognized Investment Gain	(21,312,905)	(10,674,062)	5,712,674	707,446	(3,912,339)	1,027,388
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 345,573,948	\$ 370,774,403				
H. Difference Between Market & Actuarial Values	\$ (12,275,829)	\$ 3,535,173	\$ (2,177,501)	\$ (2,884,947)	\$ 1,027,388	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



SCHEDULE C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were based on the actuarial experience study prepared as of June 30, 2008, submitted August 14, 2009, and adopted by the Board on August 20, 2009.

INVESTMENT RATE OF RETURN: 7.75% per annum, compounded annually for retirement and insurance benefits.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases for both non-hazardous and hazardous members are as follows and include inflation at 4.50% per annum:

Service	Annual Rates of				
	Merit & Seniority		Base (Economy)	Increase Next Year	
	Non-Hazardous	Hazardous		Non-Hazardous	Hazardous
0-1	12.50%	16.50%	4.50%	17.00%	21.00%
1-2	4.50%	4.50%	4.50%	9.00%	9.00%
2-3	2.00%	2.50%	4.50%	6.50%	7.00%
3-4	1.50%	2.00%	4.50%	6.00%	6.50%
4-5	1.50%	1.50%	4.50%	6.00%	6.00%
5-6	1.50%	1.00%	4.50%	6.00%	5.50%
6-7	1.00%	0.50%	4.50%	5.50%	5.00%
7-8	1.00%	0.50%	4.50%	5.50%	5.00%
8-9	1.00%	0.50%	4.50%	5.50%	5.00%
9-10	0.50%	0.50%	4.50%	5.00%	5.00%
10 & over	0.50%	0.50%	4.50%	5.00%	5.00%



SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal and retirement are shown in the following tables:

Non-Hazardous Members

Age	Withdrawal and Vesting*	Death			Disability	Service Retirement ⁺	Service Retirement ⁺⁺
		Male	Female				
20	6.00%	0.03%	0.01%	0.04%			
25	5.08	0.03	0.01	0.05			
30	4.26	0.04	0.02	0.06			
35	3.21	0.04	0.02	0.09			
40	3.00	0.05	0.04	0.13			
45	3.00	0.08	0.05	0.22			
50	3.00	0.13	0.07	0.37			
55	3.00	0.22	0.11	0.61	8.0%		
60	3.00	0.40	0.22	0.97	10.0	10.0%	
65		0.73	0.43		22.5	25.0	
70		1.19	0.69		22.5	25.0	
75					100.0	100.0	

* Select rates of withdrawal apply in the first five years of employment regardless of age. The rates are 19.0%, 13.0%, 10.0%, 9.0% and 6.5%, respectively.

+ For members participating before 9/1/2008. If service is at least 27 years, the rate is 25%.

++ For members participating on or after 9/1/2008. If age plus service is at least 87, the rate is 25%.

Hazardous Members

Age	Withdrawal and Vesting*	Death**			Service Retirement		
		Male	Female	Disability	Service	Rate ⁺	Rate ⁺⁺
20	4.00%	0.03%	0.01%	0.05%	20	22.0%	
25	4.00	0.03	0.01	0.07	25	35.0	22.0%
30	3.50	0.04	0.02	0.09	30	38.0	35.0
35	3.00	0.04	0.02	0.13	35	60.0	38.0
40	3.00	0.05	0.04	0.20	40		60.0
45	3.00	0.08	0.05	0.33			
50	3.00	0.13	0.07	0.56			
55	3.00	0.22	0.11	0.92			
60	3.00	0.40	0.22	1.46			

* Select rates of withdrawal apply in the first five years of employment regardless of age. The rates are 26.0%, 11.5%, 8.25%, 7.5% and 7.0%, respectively.

** 75% are presumed to be non-duty related, and 25% are assumed to be duty related.

+ For members participating before 9/1/2008. The annual rate of service retirement is 100% at age 65.

++ For members participating on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.



DEATH AFTER RETIREMENT: The rates of mortality for the period after service retirement are according to the 1983 Group Annuity Mortality Table for all retired members and beneficiaries as of June 30, 2006, and the 1994 Group Annuity Mortality Table for all other members. The Group Annuity Mortality Table set forward 5 years is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.

PERCENT MARRIED: 100% of employees are assumed to be married, with the wife 3 years younger than the husband.

DEPENDENT CHILDREN: For hazardous members' duty-related death benefits, it is assumed that the member is survived by two dependent children each age 6.

ACTUARIAL METHOD: Entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability. For pre-Medicare retiree healthcare liabilities, the current premium charged by the Kentucky Employees' Health Plan (KEHP) is used as the base cost and is projected forward using the healthcare trend assumption. No implicit rate subsidy is calculated or recognized as the subsidy is the responsibility of KEHP. For the Medicare-eligible retirees, claims were analyzed and current premiums were utilized with appropriate aging factors applied.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

HEALTH CARE BENEFITS VALUED: Medical and drug benefits for retirees under age 65 and Medicare eligible.

HEALTH CARE COST TREND RATES: Following is a chart detailing trend assumptions.

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2014	8.5%	7.0%
2015	7.5%	6.5%
2016	6.5%	6.0%
2017	6.0%	5.5%
2018	5.5%	5.0%
2019 and beyond	5.0%	5.0%

HEALTH CARE AGE RELATED MORBIDITY: Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

Participant Age	Annual Increase
65-69	3.0%
70-74	2.5
75-79	2.0
80-84	1.0
85-89	0.5
90 and beyond	0.0



HEALTH CARE ANTICIPATED PLAN PARTICIPATION: The assumed annual rates of plan participation are as follows:

Medical	Non-Hazardous	Hazardous
Participation	90%	100%

HEALTH CARE MONTHLY RATES: Following are charts detailing expected monthly rates for pre-Medicare eligible and post-Medicare eligible retirees for the year following the valuation date.

**MEDICAL INSURANCE RATES
PRE-MEDICARE ELIGIBLE**

Effective January 1, 2013				
	Single	Parent Plus	Couple	Family
Total Premiums				
Standard PPO	\$506.06	\$791.54	\$1,177.80	\$1,314.12
Optimum PPO	\$675.34	\$961.84	\$1,476.00	\$1,642.78
Capitol Choice	\$650.22	\$961.42	\$1,457.90	\$1,613.74

Effective January 1, 2014				
	Single	Parent Plus	Couple	Family
Total Premiums				
LivingWell CDHP	\$733.88	\$1,045.20	\$1,603.94	\$1,785.16
LivingWell PPO	\$699.28	\$995.94	\$1,528.34	\$1,701.04
Standard PPO	\$656.28	\$934.70	\$1,434.36	\$1,596.42
Standard CDHP	\$641.50	\$913.66	\$1,402.06	\$1,560.48

**MEDICAL INSURANCE RATES
MEDICARE ELIGIBLE**

Effective January 1, 2014	
Available Plan	Premium
Kentucky Retirement System Health Plan - Medical Only	\$166.00
Kentucky Retirement System Health Plan - Essential	\$67.62
Kentucky Retirement System Health Plan - Premium	\$212.39
Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.	



SCHEDULE D

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

This schedule summarizes the major retirement benefit provisions of KERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year: July 1 through June 30

Non-Hazardous Normal Retirement:

Members whose participation began before 8/1/2004

<i>Age Requirement</i>	65
<i>Service Requirement</i>	At least one month of non-hazardous duty service credit
<i>Amount</i>	If a member has at least 48 months of service, the monthly benefit is 1.97% times final average compensation times years of service. For members who were participants in any one of the state retirement systems from January 1, 1998 through January 1, 1999, the benefit factor is 2.00%. For those members who retired between January 1, 1999 and January 31, 2009 with at least 240 months of service, the benefit factor is 2.20%.

Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used.

If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 8/1/2004, but before 9/1/2008

<i>Age Requirement</i>	65
<i>Service Requirement</i>	At least one month of non-hazardous duty service credit
<i>Amount</i>	If a member has at least 48 months of service, the monthly benefit is 2.00% multiplied by final average compensation, multiplied by years of service.

Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used.



Non-Hazardous Normal Retirement (continued):

If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 9/1/2008

Requirement

Age 65 with 60 months of non-hazardous duty service credit, or age 57 if age plus service equals at least 87.

Amount

The monthly benefit is the following benefit factor based on service credit at retirement plus 2.00% for each year of service greater than 30 years, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.10%
10+ – 20 years	1.30%
20+ – 26 years	1.50%
26+ – 30 years	1.75%

Final compensation is calculated by taking the average of the last (not highest) five (5) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

Hazardous Normal Retirement:

Members whose participation began before 9/1/2008

Age Requirement

55

Service Requirement

At least one month of hazardous duty service credit

Amount

If a member has at least 60 months of service, the monthly benefit is 2.49% multiplied by final average compensation, multiplied by years of service.

Final compensation is calculated by taking the average of the highest three (3) fiscal years of salary. If the number of months of service credit during the three (3) year period is less than twenty-four (24), one (1) or more additional fiscal years shall be used.

If a member has less than 60 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 9/1/2008

Age Requirement

60

Service Requirement

At least 60 months of hazardous duty service credit



Hazardous Normal Retirement (continued):

Amount

The monthly benefit is the following benefit factor based on service credit at retirement, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.30%
10+ – 20 years	1.50%
20+ – 25 years	2.25%
25+ years	2.50%

Final compensation is calculated by taking the average of the highest three (3) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

Non-Hazardous Early Retirement:

Members whose participation began before 9/1/2008

Requirement

Age 55 with 60 months of service or any age with 25 years of service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 65 or has less than 27 years of service, whichever is smaller.

Members whose participation began on or after 9/1/2008

Requirement

Age 60 with 10 years of service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 65, or does not meet the rule of 87 (age plus service) and is younger than age 57, whichever is smaller.

Hazardous Early Retirement:

Members whose participation began before 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 20 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 55 or has less than 20 years service, whichever is smaller.



Hazardous Early Retirement (continued):

Members whose participation began on or after 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 25 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 60 or has less than 25 years service, whichever is smaller.

Non-Hazardous Disability:

Age Requirement

None

Service Requirement

60 months

Members whose participation began before 8/1/2004

Normal retirement benefit except that service credit will be added to total service for the period from the last day of plan employment to the member's 65th birthday or until the combined total service as of the last day of paid employment and added service equals 25 years. The total amount of service credit added shall not exceed the member's actual service credit on the last day of paid employment. For members with at least 25 years of service but less than 27 years of service, total service shall be 27 years. For employees with 27 or more years of service credit, actual service will be used.

A contributing member in a non-hazardous position who is disabled in the line of duty is entitled to a retirement benefit of not less than 25% of the member's final monthly rate of pay plus 10% of the member's final monthly rate of pay for each dependent child. The maximum dependent child's benefit is 40% of the member's final monthly rate of pay.

Members whose participation began on or after 8/1/2004

Normal retirement benefit based on actual service with no penalty or, if larger, 20% of the Final Rate of Pay. May apply for disability even after normal retirement age.

Hazardous Disability:

Age Requirement

None

Service Requirement

60 months (waived if in line of duty disability)

Members whose participation began before 8/1/2004

Normal retirement benefit except if the member's total service credit is less than 20 years, service credit will be added for the period from the last day of paid employment to the member's 55th birthday.



Hazardous Disability (continued):

The maximum service credit added will not exceed the total service the member had on this last day of paid employment and the maximum service credit for calculating his retirement allowance, including total service and service added will not exceed 20 years. May not apply if eligible for an unreduced retirement allowance.

A member in a hazardous position who is disabled in the line of duty is entitled to the normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty), except that the monthly retirement allowance payable shall not be less than 25% of the member's monthly final rate of pay. Each dependent child shall receive 10% of the disabled member's monthly final rate of pay; however the total maximum dependent children's benefit shall not exceed 40% of the member's monthly final rate of pay.

Members whose participation began on or after 8/1/2004

Normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty) or, if larger, 25% of the member's monthly final rate of pay. May apply for disability even after normal retirement age.

Vesting:

Members whose participation began before 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits. Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

65 for non-hazardous members and 55 for hazardous members.

Members whose participation began on or after 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits.



Vesting (continued):

Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

65 for non-hazardous members and 60 for hazardous members.

Pre-Retirement Death Benefit (not in line of duty):

Requirement

Eligible for Normal or Early Retirement, or any age in active employment with 60 months service, or any age and not in active employment with at least 144 months of service.

Amount

Benefit equal to the benefit the member would have received had the member retired on the day before the date of death and elected a 100% joint and survivor form. Benefit is actuarially reduced if member is less than normal retirement age at the date of death.

Spouse's Pre-Retirement Death Benefit (in line of duty):

Requirement

None

Amount

The spouse may choose (1) a \$10,000 lump sum payment and monthly payments of 25% of the member's final monthly rate of pay or (2) benefit options offered under death not in line of duty.

Dependent Non-Spouse's Death Benefit (in line of duty) – Hazardous Plan:

Requirement

None

Amount

The non-spouse may choose (1) a \$10,000 lump sum payment or (2) benefit options offered under death not in line of duty.

Dependent Child's Death Benefit (in line of duty):

Requirement

None

Amount

10% of member's final monthly rate of pay. Dependent child payments cannot exceed 40% of the member's monthly final rate of pay.



Post-Retirement Death Benefit:

Requirement

Retired member in receipt of monthly benefit based on at least 48 months or more of combined service with KERS, CERS or SPRS.

Amount

\$5,000

Non-Hazardous Member Contributions:

Members whose participation began before 9/1/2008

5% of all creditable compensation. Interest paid on the members' accounts is currently 2.5% shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.

Members whose participation began on or after 9/1/2008

6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.

Hazardous Member Contributions:

Members whose participation began before 9/1/2008

8% of all creditable compensation. Interest paid on the members' accounts is currently 2.5% shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.

Members whose participation began on or after 9/1/2008

9% of all creditable compensation, with 8% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.



Non-Hazardous Insurance Plan for Retirees:

Members whose participation began before 7/1/2003

Requirement

In receipt of a monthly retirement allowance.

Amount

The Retirement System pays a portion of lifetime medical premiums for retirees based on the retired member's years of service credit. The percentage of the monthly contribution rate paid is show in the following table.

Service Credit	Percentage Paid*
0 – 3 years	0%
4 – 9 years	25%
10 – 14 years	50%
15 – 19 years	75%
20 or more years	100%

**100% of the monthly contribution is paid towards the health insurance for a retired member who is totally disabled from any employment as a result of a duty-related injury regardless of actual service. 100% of the monthly contribution is paid toward health insurance for the spouse and dependent children of a member who dies as a result of a duty related injury, regardless of the deceased member's service. The insurance benefit will be provided as long as the spouse and dependent children are eligible for a monthly retirement benefit.*

Members whose participation began on or after 7/1/2003, but before 9/1/2008

Requirement

Monthly retirement allowance with at least 120 months of service at retirement.

Amount

The Retirement System pays \$12.42 per month for each year of earned service for retirees. This amount is shown as of the valuation date and is increased annually by 1.5%.

Members whose participation began on or after 9/1/2008

Requirement

Monthly retirement allowance with at least 180 months of service at retirement.

Amount

The Retirement System pays \$10 per month for each year of earned service for retirees. This amount will be increased annually by 1.5%.



Hazardous Insurance Plan for Retirees:

Members whose participation began before 7/1/2003

Requirement

In receipt of a monthly retirement allowance.

Amount

The Retirement System pays a portion of lifetime medical premiums for retirees, their spouse and their dependents based on the retired member's years of service credit. The percentage of the monthly contribution rate paid is show in the following table.

Service Credit	Percentage Paid*
0 – 3 years	0%
4 – 9 years	25%
10 – 14 years	50%
15 – 19 years	75%
20 or more years	100%

**100% of the monthly contribution is paid towards the health insurance for a member, member's spouse and dependents if the member is disabled in the line of duty as a result of a duty-related injury, regardless of actual service. 100% of the monthly contribution is paid toward health insurance for the spouse and dependent children of a member who dies in the line of duty regardless of the deceased member's service. The insurance benefit will be provided as long as the spouse and dependent children are eligible for a monthly retirement benefit.*

Members whose participation began on or after 7/1/2003, but before 9/1/2008

Requirement

Monthly retirement allowance with at least 120 months of service at retirement.

Amount

The Retirement System pays \$18.64 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.42 per month for each year of earned. These amounts are shown as of the valuation date and are increased annually by 1.5%.

Members whose participation began on or after 9/1/2008

Requirement

Monthly retirement allowance with at least 180 months of service at retirement.

Amount

The Retirement System pays \$15 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$10 per month for each year of earned. These amounts will be increased annually by 1.5%.



SCHEDULE E

DETAILED TABULATIONS OF THE DATA

**Schedule of Non-Hazardous Retired Members Added to and Removed From Rolls
Last Six Fiscal Years**

Year Ending June 30	2008	2009	2010	2011	2012	2013
			<u>Number</u>			
Beginning of Year	33,849	35,307	37,883	37,945	38,597	39,226
Added	2,573	3,465	1,162	1,592	1,707	1,982
Removed	1,115	889	1,100	940	1,078	1,014
End of Year	35,307	37,883	37,945	38,597	39,226	40,194
			<u>Annual Allowances</u>			
Beginning of Year	\$ 625,435,416	\$ 710,505,270	\$ 812,559,070	\$ 801,881,911	\$ 821,197,278	\$ 844,880,945
Added	102,305,405	110,700,043	865,483	31,930,847	37,458,130	41,468,079
Removed	17,235,551	8,646,243	11,542,643	12,615,480	13,774,463	14,209,242
End of Year	\$ 710,505,270	\$ 812,559,070	\$ 801,881,911	\$ 821,197,278	\$ 844,880,945	\$ 872,139,782
% Increase in Allowances	13.60%	14.36%	(1.31)%	2.41%	2.88%	3.23%
Average Annual Allowance	\$ 20,124	\$ 21,449	\$ 21,133	\$ 21,276	\$ 21,539	\$ 21,698



**Schedule of Hazardous Retired Members Added to and Removed From Rolls
Last Six Fiscal Years**

Year Ending June 30	2008	2009	2010	2011	2012	2013
	<u>Number</u>					
Beginning of Year	2,202	2,404	2,648	2,835	3,064	3,253
Added	261	339	282	288	243	229
Removed	59	95	95	59	54	52
End of Year	2,404	2,648	2,835	3,064	3,253	3,430
	<u>Annual Allowances</u>					
Beginning of Year	\$ 27,528,837	\$ 33,588,993	\$ 38,695,501	\$ 41,114,800	\$ 45,609,229	\$ 49,231,205
Added	6,565,454	5,443,628	3,315,361	5,012,933	4,213,360	2,390,928
Removed	505,250	337,120	896,062	518,504	591,384	499,677
End of Year	\$ 33,588,993	\$ 38,695,501	\$ 41,114,800	\$ 45,609,229	\$ 49,231,205	\$ 51,122,456
% Increase in Allowances	22.01%	15.20%	6.25%	10.93%	7.94%	3.84%
Average Annual Allowance	\$ 13,972	\$ 14,613	\$ 14,503	\$ 14,886	\$ 15,134	\$ 14,905



Non-Hazardous Retired Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	9,876	\$ 15,044,801.25	3,459	\$ 6,655,954.96	13,335	\$ 21,700,756.21
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	811	1,034,146.00	1,894	3,730,921.55	2,705	4,765,067.55
66-2/3% to Beneficiary	426	917,928.65	771	2,333,426.32	1,197	3,251,354.97
50% to Beneficiary	1,295	2,707,905.86	1,074	2,853,023.89	2,369	5,560,929.75
Pop-up Option	3,156	6,411,365.93	3,694	9,619,806.89	6,850	16,031,172.82
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	1,994	3,096,268.02	878	1,636,081.16	2,872	4,732,349.18
Social Security Option						
Age 62 Basic	980	1,824,037.09	410	1,091,421.66	1,390	2,915,458.75
Age 62 Survivorship	577	1,143,325.78	845	2,023,427.11	1,422	3,166,752.89
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	518	832,401.10	389	651,223.91	907	1,483,625.01
20 Years Certain & Life	511	888,371.28	393	890,710.23	904	1,779,081.51
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	304	467,781.69	85	144,193.84	389	611,975.53
PLSO 24 Month Basic	168	210,644.49	37	51,154.16	205	261,798.65
PLSO 36 Month Basic	417	328,462.93	165	156,147.81	582	484,610.74
PLSO 12 Month Survivor	105	181,936.33	112	239,410.53	217	421,346.86
PLSO 24 Month Survivor	81	121,638.65	90	143,992.98	171	265,631.63
PLSO 36 Month Survivor	164	143,190.89	247	280,737.81	411	423,928.70
Total	21,383	\$ 35,354,205.94	14,543	\$ 32,501,634.81	35,926	\$ 67,855,840.75



Hazardous Retired Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	478	\$ 536,909.93	371	\$ 380,142.49	849	\$ 917,052.42
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	233	283,845.41	25	26,982.74	258	310,828.15
66-2/3% to Beneficiary	86	120,935.17	21	23,478.05	107	144,413.22
50% to Beneficiary	140	209,028.92	47	73,784.91	187	282,813.83
Pop-up Option	721	1,050,377.24	144	181,052.39	865	1,231,429.63
10 Years Certain	28	33,718.32	8	8,814.03	36	42,532.35
10 Years Certain & Life	108	115,040.62	60	52,051.06	168	167,091.68
Social Security Option						
Age 62 Basic	55	103,131.37	30	51,123.34	85	154,254.71
Age 62 Survivorship	141	308,184.29	17	26,912.93	158	335,097.22
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	50	63,697.48	14	11,301.18	64	74,998.66
20 Years Certain & Life	48	63,131.66	20	30,411.72	68	93,543.38
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	12	11,835.61	15	12,928.54	27	24,764.15
PLSO 24 Month Basic	16	16,016.98	12	10,496.63	28	26,513.61
PLSO 36 Month Basic	48	40,029.37	25	21,280.54	73	61,309.91
PLSO 12 Month Survivor	21	27,586.95	6	5,150.84	27	32,737.79
PLSO 24 Month Survivor	22	30,012.66	9	11,029.16	31	41,041.82
PLSO 36 Month Survivor	50	49,843.05	15	18,695.05	65	68,538.10
Total	2,257	\$ 3,063,325.03	839	\$ 945,635.60	3,096	\$ 4,008,960.63



Non-Hazardous Beneficiary Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	12	\$ 6,887.62	24	\$ 31,145.65	36	\$ 38,033.27
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	272	222,809.18	1,479	1,542,660.23	1,751	1,765,469.41
66-2/3% to Beneficiary	38	41,020.35	312	334,325.23	350	375,345.58
50% to Beneficiary	114	84,414.09	447	302,105.08	561	386,519.17
Pop-up Option	126	201,513.95	506	804,343.33	632	1,005,857.28
10 Years Certain	76	65,507.20	85	71,853.11	161	137,360.31
10 Years Certain & Life	22	28,103.15	37	45,347.77	59	73,450.92
Social Security Option						
Age 62 Basic	1	272.14	8	8,647.21	9	8,919.35
Age 62 Survivorship	53	88,497.16	258	465,592.92	311	554,090.08
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	5	2,040.62	5	2,040.62
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	3	2,712.62	7	8,134.18	10	10,846.80
15 Years Certain & Life	19	22,313.06	55	88,347.35	74	110,660.41
20 Years Certain & Life	29	34,871.46	78	128,982.86	107	163,854.32
5 Years Certain	53	38,972.54	50	41,541.55	103	80,514.09
PLSO 12 Month Basic	0	0.00	1	1,791.60	1	1,791.60
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	0	0.00	2	3,426.69	2	3,426.69
PLSO 12 Month Survivor	3	4,870.93	12	18,532.00	15	23,402.93
PLSO 24 Month Survivor	9	11,795.18	17	14,052.91	26	25,848.09
PLSO 36 Month Survivor	14	13,103.90	41	41,939.60	55	55,043.50
Total	844	\$ 867,664.53	3,424	\$ 3,954,809.89	4,268	\$ 4,822,474.42



Hazardous Beneficiary Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	2	\$ 1,051.91	5	\$ 2,918.99	7	\$ 3,970.90
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	11	7,071.99	123	85,099.37	134	92,171.36
66-2/3% to Beneficiary	0	0.00	15	6,106.18	15	6,106.18
50% to Beneficiary	2	1,450.30	21	8,575.97	23	10,026.27
Pop-up Option	11	8,499.24	57	40,283.07	68	48,782.31
10 Years Certain	4	4,921.56	14	13,662.57	18	18,584.13
10 Years Certain & Life	4	2,570.43	1	938.53	5	3,508.96
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	1	392.36	23	39,765.02	24	40,157.38
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	1	262.55	3	2,151.81	4	2,414.36
15 Years Certain & Life	3	1,344.59	6	4,138.42	9	5,483.01
20 Years Certain & Life	0	0.00	6	3,140.16	6	3,140.16
5 Years Certain	4	7.52	2	4,127.28	6	4,134.80
PLSO 12 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	0	0.00	1	125.74	1	125.74
PLSO 12 Month Survivor	0	0.00	3	3,344.12	3	3,344.12
PLSO 24 Month Survivor	1	995.41	0	0.00	1	995.41
PLSO 36 Month Survivor	3	1,072.35	7	7,226.54	10	8,298.89
Total	47	\$ 29,640.21	287	\$ 221,603.77	334	\$ 251,243.98



**Non-Hazardous Members
Retired and Beneficiary Information June 30, 2013
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	53	\$ 1,291,170	34	\$ 427,737	104	\$ 724,141	191	\$ 2,443,047
45-49	502	\$ 13,231,061	92	\$ 1,448,690	54	\$ 612,249	648	\$ 15,292,001
50-54	1,972	\$ 61,607,176	169	\$ 2,614,956	113	\$ 1,669,116	2,254	\$ 65,891,248
55-59	4,519	\$ 137,978,932	300	\$ 4,923,205	219	\$ 3,390,911	5,038	\$ 146,293,048
60-64	7,046	\$ 190,071,769	360	\$ 4,923,224	352	\$ 6,470,455	7,758	\$ 201,465,449
65-69	7,384	\$ 169,381,477	350	\$ 4,578,265	435	\$ 8,104,169	8,169	\$ 182,063,911
70-74	5,053	\$ 99,982,293	264	\$ 3,426,420	474	\$ 7,732,339	5,791	\$ 111,141,052
75-79	3,309	\$ 56,992,835	189	\$ 2,109,402	546	\$ 8,354,474	4,044	\$ 67,456,712
80-84	2,213	\$ 33,300,914	70	\$ 788,128	511	\$ 7,626,043	2,794	\$ 41,715,085
85-89	1,366	\$ 17,992,183	33	\$ 288,090	572	\$ 6,883,383	1,971	\$ 25,163,656
90 & Over	641	\$ 6,838,936	7	\$ 73,224	888	\$ 6,302,413	1,536	\$ 13,214,573
Totals	34,058	\$ 788,668,748	1,868	\$ 25,601,341	4,268	\$ 57,869,693	40,194	\$ 872,139,782



**Hazardous Members
Retired and Beneficiary Information June 30, 2013
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	24	\$ 506,146	14	\$ 163,494	24	\$ 85,277	62	\$ 754,917
45-49	197	\$ 3,971,517	17	\$ 261,674	7	\$ 130,338	221	\$ 4,363,530
50-54	282	\$ 5,832,350	19	\$ 202,258	17	\$ 179,665	318	\$ 6,214,273
55-59	480	\$ 9,486,704	27	\$ 228,346	28	\$ 292,942	535	\$ 10,007,991
60-64	696	\$ 11,178,034	29	\$ 255,234	41	\$ 448,768	766	\$ 11,882,036
65-69	673	\$ 9,663,180	19	\$ 128,328	53	\$ 520,671	745	\$ 10,312,180
70-74	332	\$ 3,705,927	6	\$ 21,506	48	\$ 443,694	386	\$ 4,171,126
75-79	179	\$ 1,656,886	11	\$ 40,432	46	\$ 442,111	236	\$ 2,139,429
80-84	67	\$ 457,276	1	\$ 3,230	42	\$ 217,921	110	\$ 678,427
85-89	19	\$ 261,924			17	\$ 130,994	36	\$ 392,918
90 & Over	4	\$ 83,081			11	\$ 122,548	15	\$ 205,629
Totals	2,953	\$ 46,803,026	143	\$ 1,304,502	334	\$ 3,014,928	3,430	\$ 51,122,455



**Total Non-Hazardous Active Members as of June 30, 2013
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20	9								9
Avg Pay	\$16,489								\$16,489
20-24	922	3							925
Avg Pay	\$22,323	\$23,164							\$22,326
25-29	2,900	562	10						3,472
Avg Pay	\$28,282	\$30,341	\$34,506						\$28,633
30-34	2,370	2,137	608	22					5,137
Avg Pay	\$31,189	\$36,269	\$37,263	\$43,841					\$34,075
35-39	1,639	1,709	1,708	419	20	2			5,497
Avg Pay	\$32,404	\$38,392	\$41,683	\$41,888	\$40,181	\$60,344			\$37,910
40-44	1,515	1,428	1,557	1,164	464	53	27	6	6,214
Avg Pay	\$31,881	\$38,871	\$42,777	\$45,996	\$47,663	\$57,474	\$59,085	\$69,819	\$40,413
44-49	1,278	1,244	1,209	985	885	256	194	39	6,090
Avg Pay	\$31,867	\$38,032	\$42,347	\$48,180	\$48,753	\$52,053	\$58,133	\$60,815	\$42,170
50-54	1,076	1,225	1,220	855	736	266	277	121	5,776
Avg Pay	\$32,776	\$38,610	\$41,295	\$44,946	\$49,061	\$53,537	\$54,783	\$64,187	\$42,359
55-59	857	1,095	1,008	773	585	199	186	105	4,808
Avg Pay	\$35,325	\$38,249	\$40,181	\$43,762	\$47,697	\$51,505	\$55,623	\$65,125	\$41,976
60-64	462	697	739	478	351	118	117	75	3,037
Avg Pay	\$34,923	\$39,341	\$40,475	\$44,979	\$46,161	\$49,658	\$56,482	\$68,506	\$42,402
65-69	108	228	233	176	110	32	26	22	935
Avg Pay	\$41,283	\$43,537	\$41,295	\$52,208	\$49,477	\$57,666	\$53,401	\$66,038	\$46,336
70 & over	31	64	92	65	43	11	9	11	326
Avg Pay	\$30,861	\$39,116	\$38,205	\$48,397	\$44,956	\$70,209	\$64,578	\$75,127	\$43,662
Totals	13,167	10,392	8,384	4,937	3,194	937	836	379	42,226
Avg Pay	\$30,826	\$37,730	\$41,260	\$45,696	\$48,108	\$52,785	\$56,187	\$65,469	\$38,943



**Total Hazardous Active Members as of June 30, 2013
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20	1								1
Avg Pay	\$10,700								\$10,700
20-24	239								239
Avg Pay	\$21,858								\$21,858
25-29	506	78							584
Avg Pay	\$25,984	\$31,763							\$26,756
30-34	293	266	39	1					599
Avg Pay	\$26,646	\$32,552	\$33,774	\$40,293					\$29,756
35-39	205	180	168	35					588
Avg Pay	\$26,166	\$34,517	\$36,971	\$40,766					\$32,679
40-44	204	171	131	144	15		2		667
Avg Pay	\$26,717	\$33,571	\$37,480	\$41,886	\$48,309		\$76,510		\$34,498
44-49	130	122	94	70	36	7	2	1	462
Avg Pay	\$26,597	\$31,537	\$37,937	\$40,722	\$49,065	\$55,755	\$70,156	\$44,324	\$34,769
50-54	112	96	87	66	30	5	4		400
Avg Pay	\$27,337	\$32,679	\$36,725	\$40,220	\$53,458	\$50,386	\$55,614		\$35,317
55-59	90	96	75	41	25		3	3	333
Avg Pay	\$26,702	\$32,345	\$35,451	\$44,336	\$47,184		\$44,373	\$61,342	\$34,479
60-64	40	56	54	36	8	2	2		198
Avg Pay	\$31,480	\$33,224	\$37,527	\$40,855	\$41,770	\$54,716	\$53,296		\$36,198
65-69	2	18	9	9	6				44
Avg Pay	\$19,746	\$40,320	\$31,399	\$37,994	\$73,955				\$41,671
70 & over	3	3	5	1					12
Avg Pay	\$25,738	\$30,253	\$46,888	\$31,903					\$36,193
Totals	1,825	1,086	662	403	120	14	13	4	4,127
Avg Pay	\$25,919	\$33,017	\$36,861	\$41,355	\$50,435	\$53,689	\$58,115	\$57,088	\$31,988



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**Report on the Annual Valuation of the
County Employees Retirement System**

Prepared as of June 30, 2013





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 8, 2013

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Dear Members of the Board:

Presented in this report are the results for the annual actuarial valuation of the retirement and insurance benefits provided under the County Employees Retirement System (CERS). The purpose of the valuation was to measure the System's funding progress and to determine the required employer contribution rates for the fiscal year beginning July 1, 2014. The date of the valuation was June 30, 2013.

The valuation was based upon data, furnished by the Executive Director and the Kentucky Retirement Systems (KRS) staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the KRS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the summary of results on page 1 and the comments on page 6.

Since the previous valuation, certain provisions of Senate Bill 2 which impact current members of KRS have been reflected in the valuation where appropriate. Those that have an effect on the current members are as follows:

- The COLA provisions in current law are amended to require either greater than 100% funding or full pre-funding of any future COLA along with legislative action to provide a COLA. Previous legislation had suspended COLAs for Fiscal Years 2012-2013 and 2013-2014.
- For FY 2014-2015 (the June 30, 2013 actuarial valuation), the amortization period for the unfunded accrued liability (UAL) of each system is reset to a closed 30 year period.

The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.

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To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Thomas J. Cavanaugh', with a stylized flourish at the end.

Thomas J. Cavanaugh FSA, FCA, MAAA, EA
Chief Executive Officer

A handwritten signature in blue ink, appearing to read 'Todd B. Green', with a horizontal line extending to the right.

Todd B. Green ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Alisa Bennett', with a stylized flourish at the end.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

TJC/TBG/AB:kc



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**REPORT ON THE ANNUAL VALUATION OF THE
COUNTY EMPLOYEES RETIREMENT SYSTEM**

PREPARED AS OF JUNE 30, 2013

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2013, presents the results of the annual actuarial valuation of the retirement and insurance benefits provided under the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results, broken down between non-hazardous and hazardous members, are summarized in the following table. Since the previous valuation, the amortization period has been reset to a closed 30 year period.

SUMMARY OF PRINCIPAL RESULTS

	CERS Non-Hazardous		CERS Hazardous		CERS Totals	
	6/30/2013	6/30/2012	6/30/2013	6/30/2012	6/30/2013	6/30/2012
Contributions for next fiscal year:						
Retirement	12.75%	13.74%	20.73%	21.77%		
Insurance	<u>5.35</u>	<u>5.84</u>	<u>14.97</u>	<u>16.02</u>	N/A	N/A
Total	18.10%	19.58%	35.70%	37.79%		
Funded status as of valuation date:						
Retirement						
Actuarial accrued liability	\$9,378,876,114	\$9,139,567,695	\$3,124,205,593	\$3,009,992,047	\$12,503,081,707	\$12,149,559,743
Actuarial value of assets	\$5,637,094,483	\$5,547,235,599	\$1,801,691,410	\$1,747,379,297	\$7,438,785,893	\$7,294,614,896
Unfunded liability on actuarial value of assets	\$3,741,781,631	\$3,592,332,096	\$1,322,514,183	\$1,262,612,750	\$5,064,295,814	\$4,854,944,847
Funded ratio on actuarial value of assets	60.10%	60.69%	57.67%	58.05%	59.50%	60.04%
Market value of assets	\$5,780,830,355	\$5,372,769,813	\$1,830,657,969	\$1,677,940,479	\$7,611,488,324	\$7,050,710,292
Unfunded liability on market value of assets	\$3,598,045,759	\$3,766,797,882	\$1,293,547,624	\$1,332,051,568	\$4,891,593,383	\$5,098,849,451
Funded ratio on market value of assets	61.64%	58.79%	58.60%	55.75%	60.88%	58.03%
Insurance						
Actuarial accrued liability	\$2,443,894,100	\$2,370,771,288	\$1,437,332,817	\$1,364,843,057	\$3,881,226,917	\$3,735,614,345
Actuarial value of assets	\$1,628,244,197	\$1,512,853,851	\$892,774,391	\$829,040,842	\$2,521,018,588	\$2,341,894,693
Unfunded liability on actuarial value of assets	\$815,649,903	\$857,917,437	\$544,558,426	\$535,802,215	\$1,360,208,329	\$1,393,719,652
Funded ratio on actuarial value of assets	66.62%	63.81%	62.11%	60.74%	64.95%	62.69%
Market value of assets	\$1,633,696,661	\$1,439,226,170	\$894,232,297	\$788,070,813	\$2,527,928,958	\$2,227,296,983
Unfunded liability on market value of assets	\$810,197,439	\$931,545,118	\$543,100,520	\$576,772,244	\$1,353,297,959	\$1,508,317,362
Funded ratio on market value of assets	66.85%	60.71%	62.21%	57.74%	65.13%	59.62%
Demographic data as of valuation date:						
Number of retired participants and beneficiaries	47,676	45,304	7,293	6,878	54,969	52,182
Number of vested former members	11,899	12,071	614	617	12,513	12,688
Number of former members due a refund	61,179	57,645	1,802	1,794	62,981	59,439
Number of active members	81,815	83,052	9,123	9,130	90,938	92,182
Total salary	\$2,236,277,489	\$2,236,546,345	\$461,672,567	\$464,228,923	\$2,697,950,056	\$2,700,775,268
Average salary	\$27,333	\$26,929	\$50,605	\$50,847	\$29,668	\$29,298



2. The valuation balance sheets showing the results of the valuation are given in Schedule A.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section V, and the rates of contribution payable by employers are given in Section VI.
4. There were no changes in benefit provisions since the last valuation. However, the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky, has replaced the Plan Year 2013 health insurance plan options with new health insurance plan options for Plan Year 2014. The changes are summarized below.
 - The 2013 health insurance plan options, consisting of Commonwealth Capitol Choice, Commonwealth Optimum PPO and Commonwealth Standard PPO, have been replaced by two new Consumer-Driven Health Plans (CDHP) - LivingWell CDHP and Standard CDHP, and two new Preferred Provider Organization (PPO) plans - LivingWell PPO and Standard PPO.
5. The following change has been reflected in this valuation in accordance with Senate Bill 2:
 - The amortization period was reset to a closed 30 year period.
6. The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.



SECTION II – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System’s office. The following table summarizes the membership of the system as of June 30, 2013 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.

Active Members

Employee Group	Number	Payroll	Group Averages		
			Salary	Age	Service
Non-Hazardous	81,815	\$2,236,277,489	\$27,333	47.8	9.3
Hazardous	9,123	461,672,567	50,605	39.1	10.3
Total in CERS	90,938	\$2,697,950,056	\$29,668	46.9	9.4

The following tables show a six-year history of active member valuation data.

SCHEDULE OF NON-HAZARDOUS CERS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2008	85,221	\$2,166,612,648	\$25,423	4.0%
6/30/2009	83,724	2,183,611,848	26,081	2.6
6/30/2010	84,681	2,236,855,380	26,415	1.3
6/30/2011	85,285	2,276,595,948	26,694	1.1
6/30/2012	83,052	2,236,546,345	26,929	0.9
6/30/2013	81,815	2,236,277,489	27,333	1.5

SCHEDULE OF HAZARDOUS CERS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2008	10,173	\$474,241,332	\$46,618	2.2%
6/30/2009	9,757	469,315,464	48,100	3.2
6/30/2010	9,562	466,548,660	48,792	1.4
6/30/2011	9,407	466,963,860	49,640	1.7
6/30/2012	9,130	464,228,923	50,847	2.4
6/30/2013	9,123	461,672,567	50,605	(0.5)



The following tables show the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date as well as certain group averages.

Non-Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits*	Group Averages	
			Benefit	Age
Retiree	39,894	\$478,970,459	\$12,006	69.2
Disability	3,510	40,481,009	11,533	64.0
Beneficiary	4,272	38,527,724	9,019	68.1
Total in CERS	47,676	\$557,979,192	\$11,704	68.7

* Does not include annual benefits for those members included in the Hazardous System who are also receiving a portion of their benefit from the Non Hazardous System

Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retiree	6,010	\$163,346,342	\$27,179	60.6
Disability	479	7,880,014	16,451	54.5
Beneficiary	804	11,408,539	14,190	55.1
Total in CERS	7,293	\$182,634,895	\$25,042	59.6

This valuation also includes 75,494 inactive members (73,078 Non-Hazardous and 2,416 Hazardous; of which 11,899 Non-Hazardous are vested and 614 Hazardous are vested).



SECTION III – ASSETS

1. As of June 30, 2013 the total market value of assets amounted to \$10,139,417,282 as shown in the following table. The Insurance assets include both the amount in the health care trust and the amount in the 401(h) account in the pension trust established to meet the requirements of HB1.

**MARKET VALUE OF ASSETS BY FUND
AS OF JUNE 30, 2013**

Member Group	Retirement	Insurance	CERS Total
Non-Hazardous	\$5,780,830,355	\$1,633,696,661	\$7,414,527,016
Hazardous	<u>1,830,657,969</u>	<u>894,232,297</u>	<u>2,724,890,266</u>
Total	\$7,611,488,324	\$2,527,928,958	\$10,139,417,282

2. The five-year smoothed market related actuarial value of assets used for the current valuation was \$9,959,804,481. Schedule B shows the development of the actuarial value of assets as of June 30, 2013. The following table shows the actuarial value of assets allocated among member groups.

COMPARISON OF ACTUARIAL VALUE OF ASSETS

	JUNE 30, 2013	JUNE 30, 2012
Retirement		
Non-Hazardous	\$ 5,637,094,483	\$ 5,547,235,599
Hazardous	<u>1,801,691,410</u>	<u>1,747,379,297</u>
Total	\$ 7,438,785,893	\$ 7,294,614,896
Insurance		
Non-Hazardous	\$ 1,628,244,197	\$ 1,512,853,851
Hazardous	<u>892,774,391</u>	<u>829,040,842</u>
Total	\$ 2,521,018,588	\$ 2,341,894,693
CERS Total		
Non-Hazardous	\$ 7,265,338,680	\$ 7,060,089,450
Hazardous	<u>2,694,465,801</u>	<u>2,576,420,139</u>
Total	\$ 9,959,804,481	\$ 9,636,509,589



SECTION IV - COMMENTS ON VALUATION

Schedule A of this report contains the valuation balance sheets which show the present and prospective assets and liabilities of the System as of June 30, 2013. Separate balance sheets are shown for each employee group as well as in total for all groups.

Retirement

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$14,584,671,224, of which \$7,324,910,676 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$301,490,123 is for the prospective benefits payable on account of inactive members and \$6,958,270,425 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$7,438,785,893 as of June 30, 2013. The difference of \$7,145,885,331 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$1,242,870,286 is the present value of future contributions expected to be made by members, and the balance of \$5,903,015,045 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of retirement benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 3.56% of payroll for non-hazardous members and 6.09% of payroll for hazardous members are required to fund the continuing benefit accruals for the average active member of CERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$838,719,231. When this amount is subtracted from \$5,903,015,045, which is the present value of the total future contributions to be made by the employers, there remains \$5,064,295,814 as the amount of future accrued liability contributions.
4. For non-hazardous members, it is recommended that the accrued liability contribution rate payable by the Counties on account of retirement benefits be set at 8.40% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the participating employers on account of retirement benefits be set at 14.38% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$3,741,781,631 for non-hazardous members and \$1,322,514,183 for hazardous members over 30 years on the assumption that the aggregate payroll for non-hazardous and hazardous members will increase by 4.50% each year.



5. For non-hazardous members, the contribution rate for administrative expenses is determined to be 0.79% of payroll. For hazardous members, the contribution rate for administrative expenses is determined to be 0.26% of payroll.

Insurance

1. The total valuation balance sheet on account of insurance benefits shows that the System has total prospective insurance benefit liabilities of \$4,803,737,219, of which \$1,631,432,734 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$235,121,884 is for the prospective benefits payable on account of inactive members and \$2,937,182,601 is for the prospective benefits payable on account of present active members. Against these insurance benefit liabilities the System has a total present actuarial value of assets of \$2,521,018,588 as of June 30, 2013. The difference of \$2,282,718,631 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of insurance benefits. Of this amount, \$61,871,424 is the present value of future contributions expected to be made by members, and the balance of \$2,220,847,207 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of insurance benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 3.32% of payroll for non-hazardous members and 8.90% of payroll for hazardous members are required to fund the continuing benefit accruals for the average active member of CERS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$860,638,878. When this amount is subtracted from \$2,220,847,207, which is the present value of the total future contributions to be made by the employers, there remains \$1,360,208,329 as the amount of future accrued liability contributions.
4. For non-hazardous members, it is recommended that the accrued liability contribution rate payable by the Counties on account of insurance benefits be set at 1.83% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the participating employers on account of insurance benefits be set at 5.92% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$815,649,903 for non-hazardous members and \$544,558,426 for hazardous members over 30 years on the assumption that the aggregate payroll for non-hazardous and hazardous members will increase by 4.50% each year.
5. The contribution rate for administrative expenses is determined to be 0.20% of payroll for non-hazardous employees and 0.15% of payroll for hazardous employees.



SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2013 is shown below (\$ millions).

**Experience Gain/(Loss)
Retirement Benefits**

		Non-Hazardous Group		Hazardous Group		Total
(1)	UAAL* as of 6/30/12	\$ 3,592.3		\$ 1,262.6		\$ 4,854.9
(2)	Normal cost from last valuation	216.5		67.0		283.5
(3)	Contributions	415.7		163.0		578.7
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	279.1		96.7		375.8
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 3,672.2		\$ 1,263.3		\$ 4,935.5
(6)	Change due to plan amendments	0.0		0.0		0.0
(7)	Change due to new actuarial assumption or methods	0.0		0.0		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 3,672.2		\$ 1,263.3		\$ 4,935.5
(9)	Actual UAAL as of 6/30/13	\$ 3,741.8		\$ 1,322.5		\$ 5,064.3
(10)	Gain/(loss): (8) - (9)	\$ (69.6)		\$ (59.2)		\$ (128.8)
(11)	Accrued liabilities as of 6/30/12	\$ 9,139.6		\$ 3,010.0		\$ 12,149.6
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(0.8)%		(2.0)%		(1.1)%

*Unfunded actuarial accrued liability



**Experience Gain/(Loss)
Insurance Benefits**

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/12	\$ 857.9	\$ 535.8	\$ 1,393.7
(2)	Normal cost from last valuation	76.9	43.5	120.4
(3)	Expected employer contributions	<u>125.3</u>	<u>73.7</u>	<u>199.0</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .0775	62.7	39.2	101.9
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 872.2	\$ 544.8	\$ 1,417.0
(6)	Change due to plan amendments	0.0	0.0	0.0
(7)	Change due to new actuarial assumption or methods	0.0	0.0	0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 872.2	\$ 544.8	\$ 1,417.0
(9)	Actual UAAL as of 6/30/13	\$ 815.6	\$ 544.6	\$ 1,360.2
(10)	Gain/(loss): (8) - (9)	\$ 56.6	\$ 0.2	\$ 56.8
(11)	Accrued liabilities as of 6/30/12	\$ 2,370.8	\$ 1,364.8	\$ 3,735.6
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	2.4 %	0.0 %	1.5 %

* *Unfunded actuarial accrued liability*



**NON-HAZARDOUS CERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (227.3)	\$ (13.1)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	77.5	(4.1)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.2)	(1.9)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	56.7	16.7
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	77.1	35.7
New Members. Additional unfunded accrued liability will produce a loss.	(12.3)	(3.0)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(165.0)	(51.3)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	0.4	39.5
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>124.5</u>	<u>38.1</u>
Gain (or Loss) During Year From Financial Experience	\$ (69.6)	\$ 56.6
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	\$ (69.6)	\$ 56.6



**HAZARDOUS CERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (46.3)	\$ (8.4)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(6.7)	(0.2)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.2	(0.2)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	38.9	24.5
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	25.5	44.8
New Members. Additional unfunded accrued liability will produce a loss.	(7.4)	(3.9)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(59.2)	(27.8)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	(1.9)	10.2
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>(2.2)</u>	<u>(38.8)</u>
Gain (or Loss) During Year From Financial Experience	\$ (59.2)	\$ 0.2
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	\$ (59.2)	\$ 0.2



**TOTAL CERS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (273.6)	\$ (21.5)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	70.8	(4.3)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.0)	(2.1)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	95.5	41.2
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	102.6	80.5
New Members. Additional unfunded accrued liability will produce a loss.	(19.7)	(6.9)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(224.2)	(79.1)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	(1.5)	49.7
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>122.3</u>	<u>(0.7)</u>
Gain (or Loss) During Year From Financial Experience	\$ (128.8)	\$ 56.8
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	\$ (128.8)	\$ 56.8



SECTION VI – REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following tables show the rates of contribution payable by employers as determined from the present valuation for the 2014/2015 fiscal year.

**Required Contribution Rates
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 173,254,597	7.47%
(2) Disability benefits	14,979,183	0.64
(3) Survivor benefits	3,080,912	0.12
(4) Total	\$ 191,314,692	8.56%
B. Member Contributions	\$ 111,813,874	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 79,500,818	3.56%
D. Administrative Expenses	\$ 17,666,592	0.79%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/12 Valuation:	\$ 202,606,741	9.06%
(2) Change due to:		
a. Active decrements	\$ 4,731,283	0.21%
b. Pay increases	(3,867,095)	(0.17)
c. Retiree mortality	(19,399)	0.00
d. Investment return	8,278,749	0.37
e. COLA	0	0.00
f. Assumption Change	0	0.00
g. Other	(23,942,054)	(1.07)
h. Total Change	\$ (14,818,516)	(0.66)%
(3) UAAL Contribution Based on 6/30/13 Valuation: [E(1) +E(2)h]	\$ 187,788,225	8.40%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 284,955,635	12.75%

* Based on 25 year amortization of the UAAL from June 30, 2012 reset to 30 years as of June 30, 2013



**Required Contribution Rates
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 60,807,210	13.09%
(2) Disability benefits	3,342,423	0.73
(3) Survivor benefits	911,629	0.20
(4) Total	\$ 65,061,262	14.09%
B. Member Contributions	\$ 36,933,805	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 28,127,457	6.09%
D. Administrative Expenses	\$ 1,200,349	0.26%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/12 Valuation:	\$ 70,774,405	15.33%
(2) Change due to:		
a. Active decrements	\$ 703,197	0.15%
b. Pay increases	(1,282,058)	(0.28)
c. Retiree mortality	95,074	0.02
d. Investment return	2,973,103	0.64
e. COLA	0	0.00
f. Assumption Change	0	0.00
g. Other	(6,890,904)	(1.51)
h. Total Change	\$ (4,401,587)	(0.95)%
(3) UAAL Contribution Based on 6/30/13 Valuation: [E(1) +E(2)h]	\$ 66,372,818	14.38%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 95,700,624	20.73%

* Based on 25 year amortization of the UAAL from June 30, 2012 reset to 30 years as of June 30, 2013



**Required Contribution Rates
Non-Hazardous Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost:	\$ 79,288,243	3.55%
B. Member Contributions*	\$ 5,143,438	0.23%
C. Employer Normal Cost: [A - B]	\$ 74,144,805	3.32%
D. Administrative Expenses	\$ 4,430,886	0.20%
E. Unfunded Actuarial Accrued Liability**:	\$ 40,934,898	1.83%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 119,510,589	5.35%

**The liabilities are net of retiree contributions toward their healthcare.*

*** Based on 30 year amortization of the UAAL from June 30, 2013*

**Required Contribution Rates
Hazardous Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost:	\$ 41,879,460	9.07%
B. Member Contributions*	\$ 784,843	0.17%
C. Employer Normal Cost: [A - B]	\$ 41,094,617	8.90%
D. Administrative Expenses	\$ 678,523	0.15%
E. Unfunded Actuarial Accrued Liability**:	\$ 27,329,671	5.92%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 69,102,811	14.97%

**The liabilities are net of retiree contributions toward their healthcare.*

*** Based on 30 year amortization of the UAAL from June 30, 2013*



SECTION VII - ACCOUNTING INFORMATION

Governmental Accounting Standards Board Statements 25, 27, 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF JUNE 30, 2013**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	47,676	7,293	54,969
Terminated employees entitled to benefits but not yet receiving benefits	73,078	2,416	75,494
Active Members	<u>81,815</u>	<u>9,123</u>	<u>90,938</u>
Total	202,569	18,832	221,401

Another such item is the Schedule of Funding Progress for retirement and insurance benefits separately as shown in the following tables.



**RETIREMENT BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c)
Non-Hazardous Members						
6/30/2008	\$ 5,731,502,438	\$ 7,304,217,691	\$ 1,572,715,253	78.5%	\$ 2,166,612,648	72.6%
6/30/2009	5,650,789,991	7,912,913,512	2,262,123,521	71.4	2,183,611,848	103.6
6/30/2010	5,546,857,291	8,459,022,280	2,912,164,989	65.6	2,236,855,380	130.2
6/30/2011	5,629,611,183	8,918,085,025	3,288,473,842	63.1	2,276,595,948	144.4
6/30/2012	5,547,235,599	9,139,567,695	3,592,332,096	60.7	2,236,546,345	160.6
6/30/2013	5,637,094,483	9,378,876,114	3,741,781,631	60.1	2,236,277,489	167.3
Hazardous Members						
6/30/2008	\$ 1,750,867,373	\$ 2,403,122,095	\$ 652,254,722	72.9%	\$ 474,241,332	137.5%
6/30/2009	1,751,487,540	2,578,444,600	826,957,060	67.9	469,315,464	176.2
6/30/2010	1,749,464,388	2,672,151,907	922,687,519	65.5	466,548,660	197.8
6/30/2011	1,779,545,393	2,859,041,052	1,079,495,659	62.2	466,963,860	231.2
6/30/2012	1,747,379,297	3,009,992,047	1,262,612,750	58.1	464,228,923	272.0
6/30/2013	1,801,691,410	3,124,205,593	1,322,514,183	57.7	461,672,567	286.5
Total CERS Members						
6/30/2008	\$ 7,482,369,811	\$ 9,707,339,786	\$ 2,224,969,975	77.1%	\$ 2,640,853,980	84.3%
6/30/2009	7,402,277,531	10,491,358,112	3,089,080,581	70.6	2,652,927,312	116.4
6/30/2010	7,296,321,679	11,131,174,187	3,834,852,508	65.5	2,703,404,040	141.9
6/30/2011	7,409,156,576	11,777,126,077	4,367,969,501	62.9	2,743,559,808	159.2
6/30/2012	7,294,614,896	12,149,559,743	4,854,944,847	60.0	2,700,775,268	179.8
6/30/2013	7,438,785,893	12,503,081,707	5,064,295,814	59.5	2,697,950,056	187.7



**INSURANCE BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c))
Non-Hazardous Members						
6/30/2008	\$ 1,168,883,170	\$ 3,583,193,466	\$ 2,414,310,296	32.6%	\$ 2,166,612,648	111.4%
6/30/2009	1,216,631,769	3,070,386,018	1,853,754,249	39.6	2,183,611,848	84.9
6/30/2010	1,293,038,593	3,158,340,174	1,865,301,581	40.9	2,236,855,380	83.4
6/30/2011	1,433,450,793	3,073,973,205	1,640,522,412	46.6	2,276,595,948	72.1
6/30/2012	1,512,853,851	2,370,771,288	857,917,437	63.8	2,236,546,345	38.4
6/30/2013	1,628,244,197	2,443,894,100	815,649,903	66.6	2,236,277,489	36.5
Hazardous Members						
6/30/2008	\$ 613,526,319	\$ 1,769,782,957	\$ 1,156,256,638	34.7%	\$ 474,241,332	243.8%
6/30/2009	651,130,782	1,593,548,263	942,417,481	40.9	469,315,464	200.8
6/30/2010	692,769,770	1,674,703,216	981,933,446	41.4	466,548,660	210.5
6/30/2011	770,790,274	1,647,702,755	876,912,481	46.8	466,963,860	187.8
6/30/2012	829,040,842	1,364,843,057	535,802,215	60.7	464,228,923	115.4
6/30/2013	892,774,391	1,437,332,817	544,558,426	62.1	461,672,567	118.0
Total CERS Members						
6/30/2008	\$ 1,782,409,489	\$ 5,352,976,423	\$ 3,570,566,934	33.3%	\$ 2,640,853,980	135.2%
6/30/2009	1,867,762,551	4,663,934,281	2,796,171,730	40.0	2,652,927,312	105.4
6/30/2010	1,985,808,363	4,833,043,390	2,847,235,027	41.1	2,703,404,040	105.3
6/30/2011	2,204,241,067	4,721,675,960	2,517,434,893	46.7	2,743,559,808	91.8
6/30/2012	2,341,894,693	3,735,614,345	1,393,719,652	62.7	2,700,775,268	51.6
6/30/2013	2,521,018,588	3,881,226,917	1,360,208,329	65.0	2,697,950,056	50.4



RETIREMENT BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended	Annual Required Contribution	Actual Contributions	Percentage Contributed
Non-Hazardous Members			
June 30, 2008	\$138,311,398	\$150,925,334	109.1%
June 30, 2009	161,097,151	179,284,551	111.3
June 30, 2010	186,724,383	207,075,842	110.9
June 30, 2011	218,984,628	248,518,574	113.5
June 30, 2012	261,764,019	275,736,191	105.3
June 30, 2013	294,914,244	294,914,244	100.0
Hazardous Members			
June 30, 2008	\$ 64,082,063	\$ 72,154,734	112.6%
June 30, 2009	69,056,365	78,151,677	113.2
June 30, 2010	76,390,669	82,887,128	108.5
June 30, 2011	78,795,602	85,078,181	108.0
June 30, 2012	83,588,958	89,329,217	106.9
June 30, 2013	120,139,906	120,139,906	100.0
Total CERS Members			
June 30, 2008	\$202,393,461	\$223,080,068	110.2%
June 30, 2009	230,153,516	257,436,228	111.9
June 30, 2010	263,115,052	289,962,970	110.2
June 30, 2011	297,780,230	333,596,755	112.0
June 30, 2012	345,352,977	365,065,408	105.7
June 30, 2013	415,054,150	415,054,150	100.0



**INSURANCE BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Year Ended	Annual Required Contribution	Retiree Drug Subsidy (RDS) Contribution	Employer Contributions	Total Contributions	Percentage Contributed
Non-Hazardous Members					
June 30, 2008	\$406,541,729	\$6,003,181	\$196,110,111	\$202,113,292	49.7%
June 30, 2009	264,733,532	7,623,628	123,852,611	131,476,239	49.7
June 30, 2010	266,331,326	9,156,991	166,607,097	175,764,088	66.0
June 30, 2011	213,429,424	0	186,885,576	186,885,576	87.6
June 30, 2012	214,421,008	0	171,924,836	171,924,836	80.2
June 30, 2013	195,560,870	0	159,992,643	159,992,643	81.8
Hazardous Members					
June 30, 2008	\$168,723,639	\$ 419,774	\$90,113,200	\$90,532,974	53.7%
June 30, 2009	126,757,348	627,938	70,785,241	71,413,179	56.3
June 30, 2010	129,227,449	1,493,440	83,042,875	84,536,315	65.4
June 30, 2011	109,226,667	0	98,592,286	98,592,286	90.3
June 30, 2012	110,762,577	0	92,563,664	92,563,664	83.6
June 30, 2013	102,010,672	0	85,319,393	85,319,393	83.6
Total CERS Members					
June 30, 2008	\$575,265,368	\$ 6,422,955	\$286,223,311	\$292,646,266	50.9%
June 30, 2009	391,490,880	8,251,566	194,637,852	202,889,418	51.8
June 30, 2010	395,558,775	10,650,431	249,649,972	260,300,403	65.8
June 30, 2011	322,656,091	0	285,477,862	285,477,862	88.5
June 30, 2012	325,183,585	0	264,488,500	264,488,500	81.3
June 30, 2013	297,571,542	0	245,312,036	245,312,036	82.4



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2013. Additional information as of the latest actuarial valuation follows.

Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2013	6/30/2013
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	30 years	30 years
Asset valuation method	5 year smoothed Market	5 year smoothed Market
Actuarial assumptions		
Investment rate of return*	7.75%	7.75%
Projected salary increases**	4.75% - 13.0%	4.5% - 20.0%
Cost-of-living adjustment	None	None
*Includes price inflation at	3.50%	3.50%
**Includes wage inflation at	4.50%	4.50%

Insurance Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2013	6/30/2013
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	30 years	30 years
Asset valuation method	5 year smoothed Market	5 year smoothed Market
Medical Trend Assumption (Pre-Medicare)	8.5% - 5.0%	8.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	7.0% - 5.0%	7.0% - 5.0%
Year Ultimate Trend	2019	2019
Actuarial assumptions:		
Investment rate of return*	7.75%	7.75%
*Includes price inflation at	3.50%	3.50%



SCHEDULE A

Valuation Balance Sheet and Solvency Test

The following valuation balance sheets show the assets and liabilities of the retirement system as of the current valuation date of June 30, 2013 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2012. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date.

VALUATION BALANCE SHEETS SHOWING THE ASSETS AND LIABILITIES OF THE COUNTY EMPLOYEES RETIREMENT SYSTEM

RETIREMENT BENEFITS NON-HAZARDOUS CERS MEMBERS

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 5,637,094,483	\$ 5,547,235,599
Prospective contributions		
Member contributions	\$ 922,323,160	\$ 924,952,981
Employer normal contributions	597,812,223	666,452,549
Unfunded accrued liability contributions	<u>3,741,781,631</u>	<u>3,592,332,096</u>
Total prospective contributions	<u>\$ 5,261,917,014</u>	<u>\$ 5,183,737,626</u>
Total assets	<u>\$ 10,899,011,497</u>	<u>\$ 10,730,973,225</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 5,365,093,613	\$ 5,174,881,611
Present value of benefits payable on account of active members	5,260,640,661	5,314,040,230
Present value of benefits payable on account of inactive members	<u>273,277,223</u>	<u>242,051,384</u>
Total liabilities	<u>\$ 10,899,011,497</u>	<u>\$ 10,730,973,225</u>



**VALUATION BALANCE SHEET
RETIREMENT BENEFITS
HAZARDOUS CERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 1,801,691,410	\$ 1,747,379,297
Prospective contributions		
Member contributions	\$ 320,547,126	\$ 321,107,570
Employer normal contributions	240,907,008	247,316,359
Unfunded accrued liability contributions	<u>1,322,514,183</u>	<u>1,262,612,750</u>
Total prospective contributions	<u>\$ 1,883,968,317</u>	<u>\$ 1,831,036,679</u>
Total assets	<u><u>\$ 3,685,659,727</u></u>	<u><u>\$ 3,578,415,976</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,959,817,063	\$ 1,870,550,430
Present value of benefits payable on account of active members	1,697,629,764	1,688,531,673
Present value of benefits payable on account of inactive members	<u>28,212,900</u>	<u>19,333,873</u>
Total liabilities	<u><u>\$ 3,685,659,727</u></u>	<u><u>\$ 3,578,415,976</u></u>



**VALUATION BALANCE SHEET
RETIREMENT BENEFITS
TOTAL CERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 7,438,785,893	\$ 7,294,614,896
Prospective contributions		
Member contributions	\$ 1,242,870,286	\$ 1,246,060,551
Employer normal contributions	838,719,231	913,768,908
Unfunded accrued liability contributions	<u>5,064,295,814</u>	<u>4,854,944,847</u>
Total prospective contributions	<u>\$ 7,145,885,331</u>	<u>\$ 7,014,774,306</u>
 Total assets	 <u><u>\$ 14,584,671,224</u></u>	 <u><u>\$ 14,309,389,202</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 7,324,910,676	\$ 7,045,432,041
 Present value of benefits payable on account of active members	 6,958,270,425	 7,002,571,903
 Present value of benefits payable on account of inactive members	 <u>301,490,123</u>	 <u>261,385,258</u>
 Total liabilities	 <u><u>\$ 14,584,671,224</u></u>	 <u><u>\$ 14,309,389,202</u></u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
NON-HAZARDOUS CERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 1,628,244,197	\$ 1,512,853,851
Prospective contributions		
Member contributions	\$ 51,449,998	\$ 42,031,107
Employer normal contributions	564,153,820	603,105,896
Unfunded accrued liability contributions	<u>815,649,903</u>	<u>857,917,437</u>
Total prospective contributions	<u>\$ 1,431,253,721</u>	<u>\$ 1,503,054,440</u>
Total assets	<u><u>\$ 3,059,497,918</u></u>	<u><u>\$ 3,015,908,291</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,000,185,562	\$ 944,340,604
Present value of benefits payable on account of active members	1,853,898,631	1,869,000,541
Present value of benefits payable on account of inactive members	<u>205,413,725</u>	<u>202,567,146</u>
Total liabilities	<u><u>\$ 3,059,497,918</u></u>	<u><u>\$ 3,015,908,291</u></u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
HAZARDOUS CERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 892,774,391	\$ 829,040,842
Prospective contributions		
Member contributions	\$ 10,421,426	\$ 7,737,143
Employer normal contributions	296,485,058	325,936,058
Unfunded accrued liability contributions	<u>544,558,426</u>	<u>535,802,215</u>
Total prospective contributions	<u>\$ 851,464,910</u>	<u>\$ 869,475,416</u>
Total assets	<u>\$ 1,744,239,301</u>	<u>\$ 1,698,516,258</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 631,247,172	\$ 542,909,798
Present value of benefits payable on account of active members	1,083,283,970	1,123,417,169
Present value of benefits payable on account of inactive members	<u>29,708,159</u>	<u>32,189,291</u>
Total liabilities	<u>\$ 1,744,239,301</u>	<u>\$ 1,698,516,258</u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS
TOTAL CERS MEMBERS**

	June 30, 2013	June 30, 2012
ASSETS		
Current actuarial value of assets	\$ 2,521,018,588	\$ 2,341,894,693
Prospective contributions		
Member contributions	\$ 61,871,424	\$ 49,768,250
Employer normal contributions	860,638,878	929,041,954
Unfunded accrued liability contributions	<u>1,360,208,329</u>	<u>1,393,719,652</u>
Total prospective contributions	<u>\$ 2,282,718,631</u>	<u>\$ 2,372,529,856</u>
Total assets	<u>\$ 4,803,737,219</u>	<u>\$ 4,714,424,549</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,631,432,734	\$ 1,487,250,402
Present value of benefits payable on account of active members	2,937,182,601	2,992,417,710
Present value of benefits payable on account of inactive members	<u>235,121,884</u>	<u>234,756,437</u>
Total liabilities	<u>\$ 4,803,737,219</u>	<u>\$ 4,714,424,549</u>



The following tables provide the solvency test for non-hazardous and hazardous CERS members.

**Solvency Test
Retirement Benefits
Non-Hazardous CERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 963,213,677	\$ 4,058,767,419	\$ 2,282,236,595	\$ 5,731,502,438	100.0%	100.0%	31.1%
6/30/2009	991,628,551	4,542,483,102	2,378,801,859	5,650,789,991	100.0	100.0	4.9
6/30/2010	1,063,746,826	4,890,659,077	2,504,616,377	5,546,857,291	100.0	91.7	0.0
6/30/2011	1,110,967,160	5,209,783,924	2,597,333,941	5,629,611,183	100.0	86.7	0.0
6/30/2012	1,117,549,337	5,416,932,995	2,605,085,363	5,547,235,599	100.0	81.8	0.0
6/30/2013	1,149,610,832	5,638,370,836	2,590,894,446	5,637,094,483	100.0	79.6	0.0

**Solvency Test
Retirement Benefits
Hazardous CERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 338,324,362	\$ 1,406,982,409	\$ 657,815,324	\$ 1,750,867,373	100.0%	100.0%	0.8%
6/30/2009	350,308,879	1,540,262,587	687,873,134	1,751,487,540	100.0	91.0	0.0
6/30/2010	369,612,720	1,622,684,455	679,854,732	1,749,464,388	100.0	85.0	0.0
6/30/2011	382,072,055	1,768,511,545	708,457,452	1,779,545,393	100.0	79.0	0.0
6/30/2012	381,672,428	1,889,884,303	738,435,316	1,747,379,297	100.0	72.3	0.0
6/30/2013	390,471,059	1,988,029,963	745,704,571	1,801,691,410	100.0	71.0	0.0



**Solvency Test
Insurance Benefits
Non-Hazardous CERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 0	\$ 1,521,450,274	\$ 2,061,743,192	\$ 1,168,883,170	100.0%	76.8%	0.0%
6/30/2009	0	1,478,782,753	1,591,603,265	1,216,631,769	100.0	82.3	0.0
6/30/2010	0	1,526,533,372	1,631,806,802	1,293,038,593	100.0	84.7	0.0
6/30/2011	0	1,460,808,255	1,613,164,950	1,433,450,793	100.0	98.1	0.0
6/30/2012	0	1,146,907,750	1,223,863,538	1,512,853,851	100.0	100.0	29.9
6/30/2013	0	1,205,599,287	1,238,294,813	1,628,244,197	100.0	100.0	34.1

**Solvency Test
Insurance Benefits
Hazardous CERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 0	\$ 722,435,184	\$ 1,047,347,773	\$ 613,526,319	100.0%	84.9%	0.0%
6/30/2009	0	725,899,836	867,648,427	651,130,782	100.0	89.7	0.0
6/30/2010	0	814,300,256	860,402,960	692,769,770	100.0	85.1	0.0
6/30/2011	0	771,631,287	876,071,468	770,790,274	100.0	99.9	0.0
6/30/2012	0	575,099,089	789,743,968	829,040,842	100.0	100.0	32.2
6/30/2013	0	660,955,331	776,377,486	892,774,391	100.0	100.0	29.9



SCHEDULE B
Development of Actuarial Value of Assets
Retirement Benefits
Non-Hazardous Members

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 5,629,611,183	\$ 5,547,235,599				
B. Market Value End of Year	5,372,769,813	5,780,830,355				
C. Market Value Beginning of Year	5,577,252,295	5,372,769,813				
D. Cash Flow						
D1. Contributions	394,922,258	415,691,061				
D2. Benefit Payments	(565,978,993)	(566,509,548)				
D3. Administrative Expenses	(16,962,819)	(17,743,081)				
D4. Investment Expenses	<u>(14,985,808)</u>	<u>(19,876,309)</u>				
D5. Net	(203,005,362)	(188,437,877)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(1,477,120)	596,498,419				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	439,937,103	429,734,209				
E4. Amount for Phased-In Recognition	(441,414,223)	166,764,210				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(88,282,845)	33,352,842	0	0	0	0
F2. First Prior Year	103,419,725	(88,282,845)	33,352,842	0	0	0
F3. Second Prior Year	68,333,580	103,419,725	(88,282,845)	33,352,842	0	0
F4. Third Prior Year	(268,260,750)	68,333,580	103,419,725	(88,282,845)	33,352,842	0
F5. Fourth Prior Year	<u>(134,517,035)</u>	<u>(268,260,750)</u>	<u>68,333,580</u>	<u>103,419,725</u>	<u>(88,282,845)</u>	<u>33,352,842</u>
F6. Total Recognized Investment Gain	(319,307,325)	(151,437,448)	116,823,302	48,489,722	(54,930,003)	33,352,842
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 5,547,235,599	\$ 5,637,094,483				
H. Difference Between Market & Actuarial Values	\$ (174,465,786)	\$ 143,735,872	\$ 26,912,570	\$ (21,577,152)	\$ 33,352,842	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.

**Development of Actuarial Value of Assets
Retirement Benefits
Hazardous Members**



Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 1,779,545,393	\$ 1,747,379,297				
B. Market Value End of Year	1,677,940,479	1,830,657,969				
C. Market Value Beginning of Year	1,760,602,934	1,677,940,479				
D. Cash Flow						
D1. Contributions	131,314,624	163,001,791				
D2. Benefit Payments	(187,027,979)	(182,853,403)				
D3. Administrative Expenses	(1,337,844)	(1,201,666)				
D4. Investment Expenses	<u>(4,604,154)</u>	<u>(6,111,057)</u>				
D5. Net	(61,655,353)	(27,164,335)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(21,007,102)	179,881,825				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	138,840,147	135,335,630				
E4. Amount for Phased-In Recognition	(159,847,249)	44,546,195				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(31,969,450)	8,909,239	0	0	0	0
F2. First Prior Year	34,158,058	(31,969,450)	8,909,239	0	0	0
F3. Second Prior Year	20,921,839	34,158,058	(31,969,450)	8,909,239	0	0
F4. Third Prior Year	(85,878,868)	20,921,839	34,158,058	(31,969,450)	8,909,239	0
F5. Fourth Prior Year	<u>(46,582,469)</u>	<u>(85,878,868)</u>	<u>20,921,839</u>	<u>34,158,058</u>	<u>(31,969,450)</u>	<u>8,909,239</u>
F6. Total Recognized Investment Gain	(109,350,890)	(53,859,182)	32,019,686	11,097,847	(23,060,211)	8,909,239
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,747,379,297	\$ 1,801,691,410				
H. Difference Between Market & Actuarial Values	\$ (69,438,818)	\$ 28,966,559	\$ (3,053,127)	\$ (14,150,974)	\$ 8,909,239	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.

**Development of Actuarial Value of Assets
Insurance Benefits
Non-Hazardous Members**



Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 1,433,450,793	\$ 1,512,853,851				
B. Market Value End of Year	1,439,226,170	1,633,696,661				
C. Market Value Beginning of Year	1,451,984,026	1,439,226,170				
D. Cash Flow						
D1. Contributions	200,993,492	184,523,526				
D2. Benefit Payments	(141,693,436)	(132,488,852)				
D3. Administrative Expenses	(5,321,955)	(4,430,886)				
D4. Investment Expenses	<u>(2,870,026)</u>	<u>(4,279,715)</u>				
D5. Net	51,108,075	43,324,073				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(63,865,931)	151,146,418				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	117,490,439	117,664,390				
E4. Amount for Phased-In Recognition	(181,356,370)	33,482,028				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(36,271,274)	6,696,406	0	0	0	0
F2. First Prior Year	37,275,522	(36,271,274)	6,696,406	0	0	0
F3. Second Prior Year	12,929,625	37,275,522	(36,271,274)	6,696,406	0	0
F4. Third Prior Year	(66,228,396)	12,929,625	37,275,522	(36,271,274)	6,696,406	0
F5. Fourth Prior Year	<u>(36,900,933)</u>	<u>(66,228,396)</u>	<u>12,929,622</u>	<u>37,275,522</u>	<u>(36,271,274)</u>	<u>6,696,406</u>
F6. Total Recognized Investment Gain	(89,195,456)	(45,598,117)	20,630,276	7,700,654	(29,574,868)	6,696,406
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,512,853,851	\$ 1,628,244,197				
H. Difference Between Market & Actuarial Values	\$ (73,627,681)	\$ 5,452,464	\$ (15,177,812)	\$ (22,878,466)	\$ 6,696,406	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.

**Development of Actuarial Value of Assets
Insurance Benefits
Hazardous Members**



Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 770,790,274	\$ 829,040,842				
B. Market Value End of Year	788,070,813	894,232,297				
C. Market Value Beginning of Year	774,509,101	788,070,813				
D. Cash Flow						
D1. Contributions	94,535,608	86,915,544				
D2. Benefit Payments	(50,155,364)	(59,940,791)				
D3. Administrative Expenses	(668,942)	(678,523)				
D4. Investment Expenses	<u>(1,516,866)</u>	<u>(2,306,365)</u>				
D5. Net	42,194,436	23,989,865				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(28,632,724)	82,171,619				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	63,235,134	64,400,832				
E4. Amount for Phased-In Recognition	(91,867,858)	17,770,787				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(18,373,572)	3,554,157	0	0	0	0
F2. First Prior Year	18,338,164	(18,373,572)	3,554,157	0	0	0
F3. Second Prior Year	5,685,665	18,338,164	(18,373,572)	3,554,157	0	0
F4. Third Prior Year	(33,861,562)	5,685,665	18,338,164	(18,373,572)	3,554,157	0
F5. Fourth Prior Year	<u>(18,967,697)</u>	<u>(33,861,562)</u>	<u>5,685,665</u>	<u>18,338,164</u>	<u>(18,373,572)</u>	<u>3,554,157</u>
F6. Total Recognized Investment Gain	(47,179,002)	(24,657,148)	9,204,414	3,518,749	(14,819,415)	3,554,157
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 829,040,842	\$ 892,774,391				
H. Difference Between Market & Actuarial Values	\$ (40,970,029)	\$ 1,457,906	\$ (7,746,508)	\$ (11,265,257)	\$ 3,554,157	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



SCHEDULE C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were based on the actuarial experience study prepared as of June 30, 2008, submitted August 14, 2009, and adopted by the Board on August 20, 2009.

INVESTMENT RATE OF RETURN: 7.75% per annum, compounded annually for retirement and insurance benefits.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases for both non-hazardous and hazardous members are as follows and include inflation at 4.50% per annum:

Service	Annual Rates of				
	Merit & Seniority		Base (Economy)	Increase Next Year	
	Non-Hazardous	Hazardous		Non-Hazardous	Hazardous
0-1	8.50%	15.50%	4.50%	13.00%	20.00%
1-2	5.00%	6.00%	4.50%	9.50%	10.50%
2-3	1.50%	2.00%	4.50%	6.00%	6.50%
3-4	1.50%	1.25%	4.50%	6.00%	5.75%
4-5	1.00%	1.00%	4.50%	5.50%	5.50%
5-6	1.00%	0.50%	4.50%	5.50%	5.00%
6-7	0.75%	0.00%	4.50%	5.25%	4.50%
7-8	0.75%	0.00%	4.50%	5.25%	4.50%
8-9	0.50%	0.00%	4.50%	5.00%	4.50%
9-10	0.50%	0.00%	4.50%	5.00%	4.50%
10 & Over	0.25%	0.00%	4.50%	4.75%	4.50%



SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal and retirement are shown in the following tables:

Non-Hazardous Members

Age	Withdrawal and Vesting*	Death			Service Retirement**
		Male	Female	Disability	
20	5.75%	0.03%	0.01%	0.04%	
25	5.75	0.03	0.01	0.05	
30	5.30	0.04	0.02	0.06	
35	4.40	0.04	0.02	0.09	
40	3.70	0.05	0.04	0.13	
45	3.02	0.08	0.05	0.22	
50	2.70	0.13	0.07	0.37	
55	2.20	0.22	0.11	0.61	8.0%
60	0.75	0.40	0.22	0.97	10.0
65		0.73	0.43		22.0
70		1.19	0.69		22.0
75					100.0

* Select rates of withdrawal apply in the first five years of employment regardless of age. The rates are 25.0%, 14.0%, 10.0%, 8.0% and 6.5%, respectively.

** If service is at least 27 years, the rate is 30% for members participating before 9/1/2008. If age plus service is at least 87, the rate is 30% for members participating on or after 9/1/2008.

Hazardous Members

Age	Withdrawal and Vesting*	Death**			Service Retirement		
		Male	Female	Disability	Service	Rate ⁺	Rate ⁺⁺
20	3.00%	0.03%	0.01%	0.05%	20	20.0%	
25	2.70	0.03	0.01	0.07	25	33.0	20.0%
30	2.50	0.04	0.02	0.09	30	33.0	33.0
35	2.50	0.04	0.02	0.13	35	40.0	33.0
40	2.50	0.05	0.04	0.20	40		40.0
45	2.50	0.08	0.05	0.33			
50	2.50	0.13	0.07	0.56			
55		0.22	0.11	0.92			
60		0.40	0.22	1.46			

* Select rates of withdrawal apply in the first five years of employment regardless of age. The rates are 14.0%, 7.5%, 6.0%, 4.5% and 4.0%, respectively.

** 75% are presumed to be non-duty related, and 25% are assumed to be duty related.

+ Applies to members participating before 9/1/2008. The annual rate of service retirement is 100% at age 62.

++ Applies to members participating on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.



DEATH AFTER RETIREMENT: The rates of mortality for the period after service retirement are according to the 1983 Group Annuity Mortality Table for all retired members and beneficiaries as of June 30, 2006 and the 1994 Group Annuity Mortality Table for all other members. The Group Annuity Mortality Table set forward 5 years is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.

PERCENT MARRIED: 100% of employees are assumed to be married, with the wife 3 years younger than the husband.

DEPENDENT CHILDREN: For hazardous members' duty-related death benefits, it is assumed that the member is survived by two dependent children each age 6.

ACTUARIAL METHOD: Entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability. For pre-Medicare retiree healthcare liabilities, the current premium charged by the Kentucky Employees' Health Plan (KEHP) is used as the base cost is projected forward using the healthcare trend assumption. No implicit rate subsidy is calculated or recognized as the subsidy is the responsibility of KEHP. For the Medicare-eligible retirees, claims were analyzed and current premiums were utilized with appropriate aging factors applied.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

HEALTH CARE BENEFITS VALUED: Medical and drug benefits for retirees under age 65 and Medicare eligible.

HEALTH CARE COST TREND RATES: Following is a chart detailing trend assumptions.

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2014	8.5%	7.0%
2015	7.5%	6.5%
2016	6.5%	6.0%
2017	6.0%	5.5%
2018	5.5%	5.0%
2019 and beyond	5.0%	5.0%

HEALTH CARE AGE RELATED MORBIDITY: Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

Participant Age	Annual Increase
65-69	3.0%
70-74	2.5
75-79	2.0
80-84	1.0
85-89	0.5
90 and beyond	0.0



HEALTH CARE ANTICIPATED PLAN PARTICIPATION: The assumed annual rates of plan participation are as follows:

Medical	Non-Hazardous	Hazardous
Participation	85%	100%

HEALTH CARE MONTHLY RATES: Following are charts detailing expected monthly rates for pre-Medicare eligible and post-Medicare eligible retirees for the year following the valuation date.

**MEDICAL INSURANCE RATES
PRE-MEDICARE ELIGIBLE**

Effective January 1, 2013				
	Single	Parent Plus	Couple	Family
Total Premiums				
Standard PPO	\$506.06	\$791.54	\$1,177.80	\$1,314.12
Optimum PPO	\$675.34	\$961.84	\$1,476.00	\$1,642.78
Capitol Choice	\$650.22	\$961.42	\$1,457.90	\$1,613.74

Effective January 1, 2014				
	Single	Parent Plus	Couple	Family
Total Premiums				
LivingWell CDHP	\$733.88	\$1,045.20	\$1,603.94	\$1,785.16
LivingWell PPO	\$699.28	\$995.94	\$1,528.34	\$1,701.04
Standard PPO	\$656.28	\$934.70	\$1,434.36	\$1,596.42
Standard CDHP	\$641.50	\$913.66	\$1,402.06	\$1,560.48

**MEDICAL INSURANCE RATES
MEDICARE ELIGIBLE**

Effective January 1, 2014	
Available Plan	Premium
Kentucky Retirement System Health Plan - Medical Only	\$166.00
Kentucky Retirement System Health Plan - Essential	\$67.62
Kentucky Retirement System Health Plan - Premium	\$212.39
Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.	



SCHEDULE D

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

This schedule summarizes the major retirement benefit provisions of CERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year: July 1 through June 30

Non-Hazardous Normal Retirement:

Members whose participation began before 8/1/2004

<i>Age Requirement</i>	65
<i>Service Requirement</i>	At least one month of non-hazardous duty service credit
<i>Amount</i>	<p>If a member has at least 48 months of service, the monthly benefit is 2.20% multiplied by final average compensation, multiplied by years of service.</p> <p>Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used.</p> <p>If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.</p>

Members whose participation began on or after 8/1/2004, but before 9/1/2008

<i>Age Requirement</i>	65
<i>Service Requirement</i>	At least one month of non-hazardous duty service credit
<i>Amount</i>	<p>If a member has at least 48 months of service, the monthly benefit is 2.00% multiplied by final average compensation, multiplied by years of service.</p> <p>Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used.</p> <p>If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.</p>



Non-Hazardous Normal Retirement (continued):

Members whose participation began on or after 9/1/2008

Requirement

Age 65 with 60 months of non-hazardous duty service credit, or age 57 if age plus service equals at least 87.

Amount

The monthly benefit is the following benefit factor based on service credit at retirement plus 2.00% for each year of service greater than 30 years, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.10%
10+ – 20 years	1.30%
20+ – 26 years	1.50%
26+ – 30 years	1.75%

Final compensation is calculated by taking the average of the last (not highest) five (5) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

Hazardous Normal Retirement:

Members whose participation began before 9/1/2008

Age Requirement

55

Service Requirement

At least one month of hazardous duty service credit

Amount

If a member has at least 60 months of service, the monthly benefit is 2.50% multiplied by final average compensation, multiplied by years of service.

Final compensation is calculated by taking the average of the highest three (3) fiscal years of salary. If the number of months of service credit during the three (3) year period is less than twenty-four (24), one (1) or more additional fiscal years shall be used.

If a member has less than 60 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 9/1/2008

Age Requirement

60

Service Requirement

At least 60 months of hazardous duty service credit



Hazardous Normal Retirement (continued):

Amount

The monthly benefit is the following benefit factor based on service credit at retirement, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.30%
10+ – 20 years	1.50%
20+ – 25 years	2.25%
25+ years	2.50%

Final compensation is calculated by taking the average of the highest three (3) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

Non-Hazardous Early Retirement:

Members whose participation began before 9/1/2008

Requirement

Age 55 with 60 months of service or any age with 25 years of service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 65 or has less than 27 years of service, whichever is smaller.

Members whose participation began on or after 9/1/2008

Requirement

Age 60 with 10 years of service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 65, or does not meet the rule of 87 (age plus service) and is younger than age 57, whichever is smaller.

Hazardous Early Retirement:

Members whose participation began before 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 20 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 55 or has less than 20 years service, whichever is smaller.



Hazardous Early Retirement (continued):

Members whose participation began on or after 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 25 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 60 or has less than 25 years service, whichever is smaller.

Non-Hazardous Disability:

Age Requirement

None

Service Requirement

60 months

Members whose participation began before 8/1/2004

Normal retirement benefit except that service credit will be added to total service for the period from the last day of plan employment to the member's 65th birthday or until the combined total service as of the last day of paid employment and added service equals 25 years. The total amount of service credit added shall not exceed the member's actual service credit on the last day of paid employment. For members with at least 25 years of service but less than 27 years of service, total service shall be 27 years. For employees with 27 or more years of service credit, actual service will be used.

A contributing member in a non-hazardous position who is disabled in the line of duty is entitled to a retirement benefit of not less than 25% of the member's final monthly rate of pay plus 10% of the member's final monthly rate of pay for each dependent child. The maximum dependent child's benefit is 40% of the member's final monthly rate of pay.

Members whose participation began on or after 8/1/2004

Normal retirement benefit based on actual service with no penalty or, if larger, 20% of the Final Rate of Pay. May apply for disability even after normal retirement age.

Hazardous Disability:

Age Requirement

None

Service Requirement

60 months (waived if in line of duty disability)

Members whose participation began before 8/1/2004

Normal retirement benefit except if the member's total service credit is less than 20 years, service credit will be added for the period from the last day of paid employment to the member's 55th birthday.



Hazardous Disability (continued):

The maximum service credit added will not exceed the total service the member had on this last day of paid employment and the maximum service credit for calculating his retirement allowance, including total service and service added will not exceed 20 years. May not apply if eligible for an unreduced retirement allowance.

A member in a hazardous position who is disabled in the line of duty is entitled to the normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty), except that the monthly retirement allowance payable shall not be less than 25% of the member's monthly final monthly rate of pay. Each dependent child shall receive 10% of the disabled member's monthly final rate of pay; however the total maximum dependent children's benefit shall not exceed 40% of the member's monthly final rate of pay.

Members whose participation began on or after 8/1/2004

Normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty) or, if larger, 25% of the member's monthly final rate of pay. May apply for disability even after normal retirement age.

Vesting:

Members whose participation began before 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits. Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

65 for non-hazardous members and 55 for hazardous members.

Members whose participation began on or after 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits.



Vesting (continued):

Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

65 for non-hazardous members and 60 for hazardous members.

Pre-Retirement Death Benefit (not in line of duty):

Requirement

Eligible for Normal or Early Retirement, or any age in active employment with 60 months service or any age and not in active employment with at least 144 months of service.

Amount

Benefit equal to the benefit the member would have received had the member retired on the day before the date of death and elected a 100% joint and survivor form. Benefit is actuarially reduced if member is less than normal retirement age at the date of death.

Spouse's Pre-Retirement Death Benefit (in line of duty):

Requirement

None

Amount

The spouse may choose (1) a \$10,000 lump sum payment and monthly payments of 25% of the member's final monthly rate of pay or (2) benefit options offered under death not in line of duty.

Dependent Non-Spouse's Death Benefit (in line of duty) – Hazardous Plan:

Requirement

None

Amount

The non-spouse may choose (1) a \$10,000 lump sum payment or (2) benefit options offered under death not in line of duty.

Dependent Child's Death Benefit (in line of duty):

Requirement

None

Amount

10% of member's final monthly rate of pay. Dependent child payments cannot exceed 40% of the member's monthly final rate of pay.



Post-Retirement Death Benefit:

Requirement

Retired member in receipt of monthly benefit based on at least 48 months or more of combined service with KERS, CERS or SPRS.

Amount

\$5,000

Non-Hazardous Member Contributions:

Members whose participation began before 9/1/2008

5% of all creditable compensation. Interest paid on the members' accounts is currently 2.5% shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.

Members whose participation began on or after 9/1/2008

6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.

Hazardous Member Contributions:

Members whose participation began before 9/1/2008

8% of all creditable compensation. Interest paid on the members' accounts is currently 2.5% shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.

Members whose participation began on or after 9/1/2008

9% of all creditable compensation, with 8% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.



Non-Hazardous Insurance Plan for Retirees:

Members whose participation began before 7/1/2003

Requirement

In receipt of a monthly retirement allowance.

Amount

The Retirement System pays a portion of lifetime medical premiums for retirees based on the retired member's years of service credit. The percentage of the monthly contribution rate paid is show in the following table.

Service Credit	Percentage Paid*
0 – 3 years	0%
4 – 9 years	25%
10 – 14 years	50%
15 – 19 years	75%
20 or more years	100%

**100% of the monthly contribution is paid towards the health insurance for a retired member who is totally disabled from any employment as a result of a duty-related injury regardless of actual service. 100% of the monthly contribution is paid toward health insurance for the spouse and dependent children of a member who dies as a result of a duty related injury, regardless of the deceased member's service. The insurance benefit will be provided as long as the spouse and dependent children are eligible for a monthly retirement benefit.*

Members whose participation began on or after 7/1/2003, but before 9/1/2008

Requirement

Monthly retirement allowance with at least 120 months of service at retirement.

Amount

The Retirement System pays \$12.42 per month for each year of earned service for retirees. This amount is shown as of the valuation date and is increased annually 1.5%.

Members whose participation began on or after 9/1/2008

Requirement

Monthly retirement allowance with at least 180 months of service at retirement.

Amount

The Retirement System pays \$10 per month for each year of earned service for retirees. This amount will be increased annually by 1.5%.



Hazardous Insurance Plan for Retirees:

Members whose participation began before 7/1/2003

Requirement

In receipt of a monthly retirement allowance.

Amount

The Retirement System pays a portion of lifetime medical premiums for retirees, their spouse and their dependents based on the retired member's years of service credit. The percentage of the monthly contribution rate paid is show in the following table.

Service Credit	Percentage Paid*
0 – 3 years	0%
4 – 9 years	25%
10 – 14 years	50%
15 – 19 years	75%
20 or more years	100%

**100% of the monthly contribution is paid towards the health insurance for a member, member's spouse and dependents if the member is disabled in the line of duty as a result of a duty-related injury, regardless of actual service. 100% of the monthly contribution is paid toward health insurance for the spouse and dependent children of a member who dies in the line of duty regardless of the deceased member's service. The insurance benefit will be provided as long as the spouse and dependent children are eligible for a monthly retirement benefit.*

Members whose participation began on or after 7/1/2003, but before 9/1/2008

Requirement

Monthly retirement allowance with at least 120 months of service at retirement.

Amount

The Retirement System pays \$18.64 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.42 per month for each year of earned. These amounts are shown as of the valuation date and are increased annually by 1.5%.

Members whose participation began on or after 9/1/2008

Requirement

Monthly retirement allowance with at least 180 months of service at retirement.

Amount

The Retirement System pays \$15 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$10 per month for each year of earned. These amounts will be increased annually by 1.5%.



SCHEDULE E

DETAILED TABULATIONS OF THE DATA

**Schedule of Non-Hazardous Retired Members Added to and Removed From Rolls
Last Six Fiscal Years**

Year Ending June 30	2008	2009	2010	2011	2012	2013
			<u>Number</u>			
Beginning of Year	35,564	37,579	39,756	41,038	43,211	45,304
Added	3,366	3,060	2,565	3,250	3,300	3,570
Removed	1,351	883	1,283	1,077	1,207	1,198
End of Year	37,579	39,756	41,038	43,211	45,304	47,676
			<u>Annual Allowances</u>			
Beginning of Year	\$ 348,712,020	\$ 393,757,510	\$ 440,061,418	\$ 452,613,550	\$ 483,594,068	\$ 515,008,361
Added	56,376,123	51,679,136	21,063,111	38,861,094	41,160,717	56,721,012
Removed	11,330,633	5,375,228	8,510,979	7,880,576	9,746,424	13,750,181
End of Year	\$ 393,757,510	\$ 440,061,418	\$ 452,613,550	\$ 483,594,068	\$ 515,008,361	\$ 557,979,192
% Increase in Allowances	12.92%	11.76%	2.85%	6.84%	6.50%	8.34%
Average Annual Allowance	\$ 10,478	\$ 11,069	\$ 11,029	\$ 11,191	\$ 11,368	\$ 11,704



**Schedule of Hazardous Retired Members Added to and Removed From Rolls
Last Six Fiscal Years**

Year Ending June 30	2008	2009	2010	2011	2012	2013
	<u>Number</u>					
Beginning of Year	5,159	5,422	5,808	6,068	6,468	6,878
Added	469	650	423	502	483	519
Removed	206	264	163	102	73	104
End of Year	5,422	5,808	6,068	6,468	6,878	7,293
	<u>Annual Allowances</u>					
Beginning of Year	\$ 113,735,850	\$ 127,477,109	\$ 139,886,751	\$ 146,916,812	\$ 160,259,395	\$ 173,221,483
Added	16,794,618	13,030,426	8,566,698	14,640,991	14,149,084	10,923,660
Removed	3,053,359	620,784	1,536,637	1,298,408	1,186,996	1,510,248
End of Year	\$ 127,477,109	\$ 139,886,751	\$ 146,916,812	\$ 160,259,395	\$ 173,221,483	\$ 182,634,895
% Increase in Allowances	12.08%	9.73%	5.03%	9.08%	8.09%	5.43%
Average Annual Allowance	\$ 23,511	\$ 24,085	\$ 24,212	\$ 24,777	\$ 25,185	\$ 25,042



Non-Hazardous Retired Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	4,296	\$ 4,527,699.76	14,870	\$ 10,652,387.37	19,166	\$ 15,180,087.13
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	2,357	2,833,106.00	1,167	741,476.25	3,524	3,574,582.25
66-2/3% to Beneficiary	666	1,235,664.42	434	483,283.06	1,100	1,718,947.48
50% to Beneficiary	969	1,616,819.51	1,229	1,423,966.58	2,198	3,040,786.09
Pop-up Option	3,559	6,107,999.70	2,888	3,164,678.11	6,447	9,272,677.81
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	1,240	1,255,472.28	2,836	2,119,630.89	4,076	3,375,103.17
Social Security Option						
Age 62 Basic	234	521,806.92	494	569,993.98	728	1,091,800.90
Age 62 Survivorship	568	1,281,636.19	315	400,965.75	883	1,682,601.94
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	571	573,234.27	661	515,266.18	1,232	1,088,500.45
20 Years Certain & Life	408	583,786.48	608	516,097.30	1,016	1,099,883.78
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	116	141,392.94	395	337,472.10	511	478,865.04
PLSO 24 Month Basic	64	46,431.66	260	209,192.33	324	255,623.99
PLSO 36 Month Basic	290	150,977.35	741	338,618.73	1,031	489,596.08
PLSO 12 Month Survivor	163	211,747.22	99	99,404.69	262	311,151.91
PLSO 24 Month Survivor	103	131,337.11	72	49,343.51	175	180,680.62
PLSO 36 Month Survivor	440	312,316.62	291	134,417.12	731	446,733.74
Total	16,044	\$ 21,531,428.43	27,360	\$ 21,756,193.95	43,404	\$ 43,287,622.38



Hazardous Retired Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	853	\$ 1,683,142.63	265	\$ 427,653.26	1,118	\$ 2,110,795.89
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	642	1,262,476.79	30	34,247.82	672	1,296,724.61
66-2/3% to Beneficiary	258	665,514.49	6	15,669.72	264	681,184.21
50% to Beneficiary	397	930,245.68	27	51,641.40	424	981,887.08
Pop-up Option	2,520	6,340,172.48	103	199,870.70	2,623	6,540,043.18
10 Years Certain	49	78,134.06	3	3,890.00	52	82,024.06
10 Years Certain & Life	192	392,207.67	48	83,224.80	240	475,432.47
Social Security Option						
Age 62 Basic	102	248,828.91	12	22,700.77	114	271,529.68
Age 62 Survivorship	293	634,848.45	15	37,384.97	308	672,233.42
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	76	134,959.63	11	13,042.96	87	148,002.59
20 Years Certain & Life	130	248,103.85	24	37,438.08	154	285,541.93
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	26	45,792.55	10	12,355.51	36	58,148.06
PLSO 24 Month Basic	23	47,989.93	6	6,336.10	29	54,326.03
PLSO 36 Month Basic	57	87,627.09	22	24,358.25	79	111,985.34
PLSO 12 Month Survivor	59	147,864.89	4	8,080.23	63	155,945.12
PLSO 24 Month Survivor	68	110,391.43	3	2,816.43	71	113,207.86
PLSO 36 Month Survivor	148	223,099.65	7	6,751.85	155	229,851.50
Total	5,893	\$ 13,281,400.18	596	\$ 987,462.85	6,489	\$ 14,268,863.03



Non-Hazardous Beneficiary Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	11	\$ 4,284.53	21	\$ 11,611.54	32	\$ 15,896.07
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	350	191,069.43	1,458	979,026.81	1,808	1,170,096.24
66-2/3% to Beneficiary	0	0.00	3	2,366.05	3	2,366.05
50% to Beneficiary	102	37,581.17	327	183,065.92	429	220,647.09
Pop-up Option	142	100,062.01	507	519,853.66	649	619,915.67
10 Years Certain	104	84,310.19	146	116,155.08	250	200,465.27
10 Years Certain & Life	42	19,606.02	208	164,622.74	250	184,228.76
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	23	19,297.06	129	192,638.42	152	211,935.48
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	1	206.92	1	206.92
Dependent Child	48	35,575.78	59	56,151.93	107	91,727.71
Refund	2	1,607.64	6	4,912.78	8	6,520.42
15 Years Certain & Life	35	30,067.43	63	51,943.36	98	82,010.79
20 Years Certain & Life	40	28,628.05	70	118,612.68	110	147,240.73
5 Years Certain	103	80,106.72	87	60,720.38	190	140,827.10
PLSO 12 Month Basic	0	0.00	1	395.49	1	395.49
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	1	149.07	1	623.63	2	772.70
PLSO 12 Month Survivor	7	2,541.17	30	32,054.19	37	34,595.36
PLSO 24 Month Survivor	4	4,044.98	20	19,551.28	24	23,596.26
PLSO 36 Month Survivor	32	16,347.09	89	40,852.50	121	57,199.59
Total	1,046	\$ 655,278.34	3,226	\$ 2,555,365.36	4,272	\$ 3,210,643.70



Hazardous Beneficiary Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	18	\$ 7,364.26	28	\$ 23,449.97	46	\$ 30,814.23
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	20	10,176.75	187	245,991.95	207	256,168.70
66-2/3% to Beneficiary	3	687.67	42	57,339.45	45	58,027.12
50% to Beneficiary	6	3,686.66	55	50,579.64	61	54,266.30
Pop-up Option	37	20,792.43	181	276,635.95	218	297,428.38
10 Years Certain	11	12,914.77	18	15,367.32	29	28,282.09
10 Years Certain & Life	5	2,005.64	4	983.68	9	2,989.32
Social Security Option						
Age 62 Basic	0	0.00	1	310.13	1	310.13
Age 62 Survivorship	87	148,887.08	1	2,890.36	88	151,777.44
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	3	3,287.07	3	3,287.07
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	4	824.79	14	7,214.03	18	8,038.82
15 Years Certain & Life	4	1,338.98	3	1,406.94	7	2,745.92
20 Years Certain & Life	4	1,520.19	13	9,721.80	17	11,241.99
5 Years Certain	3	4,673.50	3	5,161.49	6	9,834.99
PLSO 12 Month Basic	0	0.00	1	2,192.42	1	2,192.42
PLSO 24 Month Basic	0	0.00	1	1,466.49	1	1,466.49
PLSO 36 Month Basic	2	561.73	4	1,858.06	6	2,419.79
PLSO 12 Month Survivor	1	415.46	4	2,794.70	5	3,210.16
PLSO 24 Month Survivor	1	1,294.71	9	6,630.00	10	7,924.71
PLSO 36 Month Survivor	4	1,553.48	22	16,731.98	26	18,285.46
Total	210	\$ 218,698.10	594	\$ 732,013.43	804	\$ 950,711.53



Non-Hazardous Members

Retired and Beneficiary Information June 30, 2013
Tabulated by Attained Ages

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	29	\$ 881,009	61	\$ 1,096,070	135	\$ 1,000,403	225	\$ 2,977,481
45-49	303	\$ 9,042,093	127	\$ 2,022,259	51	\$ 435,001	481	\$ 11,499,353
50-54	1,302	\$ 34,303,688	307	\$ 4,101,587	123	\$ 1,494,035	1,732	\$ 39,899,310
55-59	3,724	\$ 74,472,577	588	\$ 7,452,646	256	\$ 2,992,002	4,568	\$ 84,917,224
60-64	7,027	\$ 102,333,132	757	\$ 9,315,306	438	\$ 5,172,421	8,222	\$ 116,820,859
65-69	9,110	\$ 102,554,188	706	\$ 7,748,226	540	\$ 5,729,949	10,356	\$ 116,032,364
70-74	7,612	\$ 72,715,582	515	\$ 5,113,514	583	\$ 6,463,807	8,710	\$ 84,292,903
75-79	5,319	\$ 44,374,959	313	\$ 2,679,045	594	\$ 5,748,712	6,226	\$ 52,802,716
80-84	3,143	\$ 24,243,397	107	\$ 804,607	519	\$ 4,007,978	3,769	\$ 29,055,982
85-89	1,655	\$ 10,859,320	20	\$ 120,088	482	\$ 3,017,813	2,157	\$ 13,997,221
90 & Over	670	\$ 3,190,516	9	\$ 27,661	551	\$ 2,465,604	1,230	\$ 5,683,781
Totals	39,894	\$ 478,970,459	3,510	\$ 40,481,009	4,272	\$ 38,527,724	47,676	\$ 557,979,193



Hazardous Members

Retired and Beneficiary Information June 30, 2013
Tabulated by Attained Ages

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	116	\$ 3,754,795	78	\$ 1,182,275	184	\$ 993,459	378	\$ 5,930,529
45-49	619	\$ 19,861,182	69	\$ 1,400,966	25	\$ 272,023	713	\$ 21,534,171
50-54	866	\$ 27,267,794	97	\$ 1,763,014	39	\$ 597,993	1,002	\$ 29,628,801
55-59	1,102	\$ 31,355,382	92	\$ 1,418,926	62	\$ 809,605	1,256	\$ 33,583,913
60-64	1,321	\$ 37,312,430	80	\$ 1,126,010	95	\$ 1,794,874	1,496	\$ 40,233,314
65-69	1,026	\$ 23,564,641	41	\$ 703,532	110	\$ 1,973,845	1,177	\$ 26,242,018
70-74	572	\$ 11,907,924	11	\$ 132,633	110	\$ 2,415,962	693	\$ 14,456,520
75-79	257	\$ 5,468,701	8	\$ 107,605	81	\$ 1,285,898	346	\$ 6,862,204
80-84	96	\$ 2,152,359	2	\$ 25,133	65	\$ 963,155	163	\$ 3,140,647
85-89	29	\$ 599,077	1	\$ 19,920	25	\$ 226,680	55	\$ 845,677
90 & Over	6	\$ 102,057			8	\$ 75,045	14	\$ 177,102
Totals	6,010	\$ 163,346,342	479	\$ 7,880,014	804	\$ 11,408,539	7,293	\$ 182,634,895



**Total Non-Hazardous Active Members as of June 30, 2013
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20	94	2	1						97
Avg Pay	\$10,995	\$29,985	\$75,952						\$12,057
20-24	1,989	29							2,018
Avg Pay	\$17,288	\$26,966							\$17,427
25-29	3,528	811	17						4,356
Avg Pay	\$22,256	\$29,812	\$30,725						\$23,696
30-34	3,564	1,850	640	14					6,068
Avg Pay	\$22,049	\$31,536	\$35,448	\$40,093					\$26,396
35-39	3,691	2,175	1,454	439	11			1	7,771
Avg Pay	\$21,705	\$28,691	\$36,363	\$39,120	\$50,178			\$20,749	\$27,427
40-44	3,912	2,977	2,173	1,149	310	19	17	1	10,558
Avg Pay	\$21,588	\$26,745	\$33,032	\$40,791	\$44,159	\$66,023	\$64,420	\$45,486	\$28,301
44-49	3,369	3,005	2,981	1,599	725	184	103	29	11,995
Avg Pay	\$21,352	\$26,074	\$28,877	\$34,802	\$43,263	\$48,564	\$56,081	\$57,681	\$28,326
50-54	3,014	2,913	3,326	2,399	1,274	270	202	125	13,523
Avg Pay	\$22,020	\$26,138	\$28,207	\$30,112	\$37,910	\$46,098	\$49,814	\$56,519	\$28,576
55-59	2,624	2,455	2,603	2,443	1,506	337	207	179	12,354
Avg Pay	\$21,851	\$26,648	\$29,264	\$29,556	\$34,267	\$37,305	\$46,371	\$57,878	\$28,758
60-64	1,742	1,799	1,615	1,480	1,023	281	129	126	8,195
Avg Pay	\$20,025	\$25,666	\$29,709	\$30,445	\$32,249	\$36,471	\$45,020	\$51,342	\$28,018
65-69	750	808	754	454	267	75	66	61	3,235
Avg Pay	\$16,214	\$22,395	\$25,295	\$28,610	\$32,334	\$31,708	\$38,230	\$46,618	\$24,326
70 & over	367	443	388	213	131	30	32	42	1,646
Avg Pay	\$14,143	\$19,033	\$23,285	\$21,864	\$28,887	\$29,005	\$37,233	\$39,987	\$21,166
Totals	28,644	19,267	15,952	10,190	5,247	1,196	756	564	81,816
Avg Pay	\$21,120	\$26,885	\$30,096	\$32,129	\$36,386	\$40,723	\$47,692	\$53,468	\$27,333



**Total Hazardous Active Members as of June 30, 2013
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20	2								2
Avg Pay	\$27,948								\$27,948
20-24	276	1							277
Avg Pay	\$33,381	\$31,167							\$33,373
25-29	929	299	1						1,229
Avg Pay	\$39,577	\$46,382	\$35,111						\$41,229
30-34	515	804	238	1					1,558
Avg Pay	\$40,938	\$49,350	\$53,487	\$59,568					\$47,208
35-39	286	512	702	255	7				1,762
Avg Pay	\$39,904	\$48,407	\$55,264	\$60,240	\$62,891				\$51,529
40-44	163	317	625	672	132	24	3		1,936
Avg Pay	\$40,494	\$47,380	\$53,615	\$60,852	\$65,828	\$68,123	\$71,426		\$55,042
44-49	93	178	289	310	254	44	27	3	1,198
Avg Pay	\$38,793	\$45,669	\$53,814	\$57,706	\$66,838	\$70,778	\$74,188	\$99,620	\$56,403
50-54	45	105	120	171	131	35	32	14	653
Avg Pay	\$37,770	\$44,685	\$50,032	\$56,303	\$64,465	\$72,523	\$73,022	\$89,320	\$56,039
55-59	26	60	66	68	49	7	13	14	303
Avg Pay	\$39,269	\$46,547	\$48,018	\$54,100	\$63,084	\$76,692	\$70,804	\$73,038	\$53,573
60-64	11	37	45	25	17	3	5	7	150
Avg Pay	\$36,878	\$40,873	\$47,152	\$61,032	\$55,381	\$61,250	\$66,668	\$97,022	\$51,355
65-69	2	10	11	8	2			1	34
Avg Pay	\$26,877	\$34,368	\$57,595	\$50,023	\$84,178			\$78,273	\$49,347
70 & over		7	9	1	1		2	1	21
Avg Pay		\$32,404	\$50,223	\$42,087	\$9,425		\$86,340	\$116,248	\$48,537
Totals	2,348	2,330	2,106	1,511	593	113	82	40	9,123
Avg Pay	\$39,148	\$47,673	\$53,657	\$59,217	\$65,365	\$70,868	\$72,933	\$86,139	\$50,605



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve



**Report on the Annual Valuation of the
State Police Retirement System**

Prepared as of June 30, 2013





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 8, 2013

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Dear Members of the Board:

Presented in this report are the results of the annual actuarial valuation of the retirement and insurance benefits provided under the State Police Retirement System (SPRS). The purpose of the valuation was to measure the System's funding progress and to determine the required employer contribution rates for the fiscal years beginning July 1, 2014 and July 1, 2015. The date of the valuation was June 30, 2013.

The valuation was based upon data, furnished by the Executive Director and the Kentucky Retirement Systems (KRS) staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the KRS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the summary of results on page 1 and the comments on page 5.

Since the previous valuation, certain provisions of Senate Bill 2 which impact current members of KRS have been reflected in the valuation where appropriate. Those that have an effect on the current members are as follows:

- The COLA provisions in current law are amended to require either greater than 100% funding or full pre-funding of any future COLA along with legislative action to provide a COLA. Previous legislation had suspended COLAs for Fiscal Years 2012-2013 and 2013-2014.
- The phase-in of employer contributions under SPRS has been eliminated, requiring the full actuarial required contribution beginning in FY 2014-2015. Therefore, the discount rate used to value insurance liabilities has been increased from 4.50% to 7.75%.
- For FY 2014-2015 (the June 30, 2013 actuarial valuation), the amortization period for the unfunded accrued liability (UAL) of each system is reset to a closed 30 year period.

The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.

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To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Thomas J. Cavanaugh'.

Thomas J. Cavanaugh FSA, FCA, MAAA, EA
Chief Executive Officer

A handwritten signature in blue ink that reads 'Todd B. Green'.

Todd B. Green ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

TJC/TBG/AB:kc



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**REPORT ON THE ANNUAL VALUATION OF THE
STATE POLICE RETIREMENT SYSTEM**

PREPARED AS OF JUNE 30, 2013

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2013, presents the results of the annual actuarial valuation of the retirement and insurance benefits provided under the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized in the following table. Since the previous valuation, the amortization period has been reset to a closed 30 year period and the discount rate used to value insurance liabilities has been increased from 4.50% to 7.75%.

SUMMARY OF PRINCIPAL RESULTS

	6/30/2013	6/30/2012
Contributions for next fiscal year:		
Retirement	53.90%	53.35%
Insurance	<u>21.86</u>	<u>43.17</u>
Total	75.76%	96.52%
Funded status as of valuation date:		
Retirement		
Actuarial accrued liability	\$651,580,654	\$647,688,665
Actuarial value of assets	241,800,328	259,791,575
Unfunded liability on actuarial value of assets	409,780,326	387,897,090
Funded ratio on actuarial value of assets	37.11%	40.11%
Market value of assets	\$248,559,040	\$252,896,868
Unfunded liability on market value of assets	403,021,614	394,791,797
Funded ratio on market value of assets	38.15%	39.05%
Insurance		
Actuarial accrued liability	\$222,326,743	\$333,903,782
Actuarial value of assets	136,321,060	124,372,072
Unfunded liability on actuarial value of assets	86,005,683	209,531,710
Funded ratio on actuarial value of assets	61.32%	37.25%
Market value of assets	\$142,830,916	\$125,567,846
Unfunded liability on market value of assets	79,495,827	208,335,936
Funded ratio on market value of assets	64.24%	37.61%
Demographic data as of valuation date:		
Number of retired participants and beneficiaries	1,346	1,299
Number of vested former members	60	58
Number of former members due a refund	330	322
Number of active members	902	907
Total salary	\$45,256,202	\$48,372,506
Average salary	\$50,173	\$53,332



2. The valuation balance sheets showing the results of the valuation are given in Schedule A.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section V, and the rates of contribution payable by employers are given in Section VI.
4. There were no changes in benefit provisions since the last valuation. However, the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky, has replaced the Plan Year 2013 health insurance plan options with new health insurance plan options for Plan Year 2014. The changes are summarized below.
 - The 2013 health insurance plan options, consisting of Commonwealth Capitol Choice, Commonwealth Optimum PPO and Commonwealth Standard PPO, have been replaced by two new Consumer-Driven Health Plans (CDHP) - LivingWell CDHP and Standard CDHP, and two new Preferred Provider Organization (PPO) plans - LivingWell PPO and Standard PPO.
5. The following changes have been reflected in this valuation in accordance with Senate Bill 2:
 - The amortization period was reset to a closed 30 year period.
 - Since full payment of the Annual Required Contribution is assumed, the insurance liabilities and insurance contribution rates reflect a 7.75% fully-funded interest rate.
6. The cash balance plan enacted by Senate Bill 2 for members whose participation date is on or after January 1, 2014 has not been reflected in this valuation. The cash balance plan will be reflected in the next valuation once membership in the cash balance plan is established.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
8. The investment rate of return for developing insurance liabilities and contribution rates shown in this report was 4.50% for June 30, 2012 and 7.75% for June 30, 2013. The lower rate for insurance benefits for June 30, 2012 was required under the parameters set by the Governmental Accounting Standards Board Statements 43 and 45 given the lack of pre-funding of insurance benefits.



SECTION II – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System’s office. The following tables summarize the membership of the system as of June 30, 2013 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.

Active Members

Number	Payroll	Group Averages		
		Salary	Age	Service
902	\$45,256,202	\$50,173	37.0	10.0

The following table shows a six-year history of active member valuation data.

SCHEDULE OF SPRS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2008	993	\$53,269,080	\$53,645	4.2%
6/30/2009	946	51,660,396	54,609	1.8
6/30/2010	961	51,506,712	53,597	(1.9)
6/30/2011	965	48,692,616	50,459	(5.9)
6/30/2012	907	48,372,506	53,332	5.7
6/30/2013	902	45,256,202	50,173	(5.9)

The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date as well as certain group averages.

Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retiree	1,136	\$45,770,596	\$40,291	61.8
Disability	50	\$905,431	18,109	56.3
Beneficiary	160	4,229,762	26,436	63.9
Total in SPRS	1,346	\$50,905,789	\$37,820	61.8

This valuation also includes 390 inactive members of which 60 are vested.



SECTION III - ASSETS

1. As of June 30, 2013 the total market value of assets amounted to \$391,389,956 as shown in the following table. The Insurance assets include both the amount in the health care trust and the amount in the 401(h) account in the pension trust established to meet the requirements of HB1.

Retirement	Insurance	SPRS Total
\$248,559,040	\$142,830,916	\$391,389,956

2. The five-year smoothed market related actuarial value of assets used for the current valuation was \$378,121,388. Schedule B shows the development of the actuarial value of assets as of June 30, 2013. The following table shows the actuarial value of assets.

COMPARISON OF ACTUARIAL VALUE OF ASSETS

	JUNE 30, 2013	JUNE 30, 2012
Retirement	\$ 241,800,328	\$ 259,791,575
Insurance	<u>136,321,060</u>	<u>124,372,072</u>
Total	\$ 378,121,388	\$ 384,163,647



SECTION IV - COMMENTS ON VALUATION

Schedule A of this report contains the valuation balance sheets which show the present and prospective assets and liabilities of the System as of June 30, 2013. Separate balance sheets are shown for Retirement and Insurance.

Retirement

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$717,302,609, of which \$532,387,170 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$3,333,025 is for the prospective benefits payable on account of inactive members, \$181,582,414 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$241,800,328 as of June 30, 2013. The difference of \$475,502,281 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$33,277,558 is the present value of future contributions expected to be made by members, and the balance of \$442,224,723 represents the present value of future contributions payable by the State.
2. The State's contributions to the System on account of retirement benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 8.05% of payroll are required to fund the continuing benefit accruals for the average active member of SPRS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$32,444,397. When this amount is subtracted from \$442,224,723, which is the present value of the total future contributions to be made by the State, there remains \$409,780,326 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by the State on account of retirement benefits be set at 45.44% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$409,780,326 over 30 years on the assumption that the aggregate payroll for members will increase by 4.50% each year.
5. The contribution rate for administrative expenses is determined to be 0.41% of payroll.



Insurance

1. The total valuation balance sheet on account of insurance benefits shows that the System has total prospective insurance benefit liabilities of \$265,432,340, of which \$136,470,662 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$3,037,928 is for the prospective benefits payable on account of inactive members, and \$125,923,750 is for the prospective benefits payable on account of present active members. Against these insurance benefit liabilities the System has a total present actuarial value of assets of \$136,321,060 as of June 30, 2013. The difference of \$129,111,280 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of insurance benefits. Of this amount, \$845,028 is the present value of future contributions expected to be made by members, and the balance of \$128,266,252 represents the present value of future contributions payable by the State.
2. The State's contributions to the System on account of insurance benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 11.91% of payroll are required to fund the continuing benefit accruals for the average active member of SPRS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$42,260,569. When this amount is subtracted from \$128,266,252, which is the present value of the total future contributions to be made by the employers, there remains \$86,005,683 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by the State on account of insurance benefits be set at 9.54% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$86,005,683 over 30 years on the assumption that the aggregate payroll for members will increase by 4.50% each year.
5. The contribution rate for administrative expenses is determined to be 0.41% of payroll.



SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2013 is shown below (\$ millions).

Experience Gain/(Loss) Retirement Benefits

		Amount	
(1)	UAAL* as of 6/30/12	\$	387.9
(2)	Normal cost from last valuation		7.8
(3)	Contributions		23.0
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875		29.8
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	402.5
(6)	Change due to plan amendments		0.0
(7)	Change due to new actuarial assumption or methods		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$	402.5
(9)	Actual UAAL as of 6/30/13	\$	409.8
(10)	Gain/(loss): (8) - (9)	\$	(7.3)
(11)	Accrued liabilities as of 6/30/12	\$	647.7
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		(1.1)%

**Unfunded actuarial accrued liability*



**Experience Gain/(Loss)
Insurance Benefits**

		Amount	
(1)	UAAL* as of 6/30/12	\$	209.5
(2)	Normal cost from last valuation		12.3
(3)	Expected employer contributions		<u>20.7</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .045		9.0
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	210.1
(6)	Change due to plan amendments		0.0
(7)	Change due to new actuarial assumption or methods**		(117.0)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$	93.1
(9)	Actual UAAL as of 6/30/13	\$	86.0
(10)	Gain/(loss): (8) - (9)	\$	7.1
(11)	Accrued liabilities as of 6/30/12	\$	333.9
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		2.1%

* *Unfunded actuarial accrued liability*

** *Gain due to change in discount rate from 4.50% to 7.75%*



**SPRS MEMBERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/13	Insurance \$ Gain (or Loss) For Year Ending 6/30/13
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (8.2)	\$ (5.7)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.2)	(0.7)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.0	0.0
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	4.4	7.5
Pay or Claims Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. For insurance, smaller claims increases than assumed creates a gain; larger, a loss.	4.4	8.9
New Members. Additional unfunded accrued liability will produce a loss.	(0.1)	(0.1)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(9.3)	(2.2)
Death or Waiver After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain. If retired members receiving health benefits later waive coverage, there is a gain.	(1.0)	2.2
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, insurance election changes, etc.	<u>2.7</u>	<u>(2.8)</u>
Gain (or Loss) During Year From Financial Experience	\$ (7.3)	\$ 7.1
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>117.0</u>
Composite Gain (or Loss) During Year	\$ (7.3)	\$ 124.1



SECTION VI – REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by the State to the Retirement System. The following tables show the rates of contribution payable by employers as determined from the present valuation for the 2014/2015 fiscal year.

**Required Contribution Rates
Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 6,867,705	15.18%
(2) Disability benefits	317,002	0.70
(3) Survivor benefits	79,829	0.18
(4) Total	\$ <u>7,264,536</u>	<u>16.05%</u>
B. Member Contributions	\$ 3,620,496	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 3,644,040	8.05%
D. Administrative Expenses	\$ 185,550	0.41%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/12 Valuation:	\$ 21,869,973	45.21%
(2) Change due to:		
a. Active decrements	\$ 202,714	0.45%
b. Pay increases	(219,750)	(0.49)
c. Retiree mortality	48,920	0.11
d. Investment return	519,541	1.15
e. COLA	0	0.00
f. Assumption Change	0	0.00
g. Other	(1,855,815)	(4.11)
h. Total Change	\$ <u>(1,304,390)</u>	<u>0.23%</u>
(3) UAAL Contribution Based on 6/30/13 Valuation: [E(1) +E(2)h]	\$ 20,565,583	45.44%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 24,395,173	53.90%

* Based on 25 year amortization of the UAAL from June 30, 2012 reset to 30 years as of June 30, 2013



**Required Contribution Rates
Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost	\$ 5,443,759	12.03%
B. Member Contributions*	\$ 54,307	0.12%
C. Employer Normal Cost: [A - B]	\$ 5,389,452	11.91%
D. Administrative Expenses	\$ 183,991	0.41%
E. Unfunded Actuarial Accrued Liability**	\$ 4,316,354	9.54%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 9,889,797	21.86%

**The liabilities are net of retiree contributions toward their healthcare.*

*** Based on 30 year amortization of the UAAL from June 30, 2013*



SECTION VII - ACCOUNTING INFORMATION

Governmental Accounting Standards Board Statements 25, 27, 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF JUNE 30, 2013**

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	1,346
Terminated employees entitled to benefits but not yet receiving benefits	390
Active Members	<u>902</u>
Total	2,638

Another such item is the Schedule of Funding Progress for retirement and insurance benefits separately as shown in the following tables.



**RETIREMENT BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c))
6/30/2008	\$ 350,891,451	\$ 587,129,257	\$ 236,237,806	59.8%	\$ 53,269,080	443.5%
6/30/2009	329,966,989	602,328,868	272,361,879	54.8	51,660,396	527.2
6/30/2010	304,577,292	612,444,806	307,867,514	49.7	51,506,712	597.7
6/30/2011	285,580,631	634,379,401	348,798,770	45.0	48,692,616	716.3
6/30/2012	259,791,575	647,688,665	387,897,090	40.1	48,372,506	801.9
6/30/2013	241,800,328	651,580,654	409,780,326	37.1	45,256,202	905.5

**INSURANCE BENEFITS
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / (c))
6/30/2008	\$ 123,961,197	\$ 445,107,468	\$ 321,146,271	27.8%	\$ 53,269,080	602.9%
6/30/2009	123,526,647	364,031,141	240,504,494	33.9	51,660,396	465.5
6/30/2010	121,175,083	434,960,495	313,785,412	27.9	51,506,712	609.2
6/30/2011	123,687,289	438,427,763	314,740,474	28.2	48,692,616	646.4
6/30/2012	124,372,072	333,903,782	209,531,710	37.2	48,372,506	433.2
6/30/2013*	136,321,060	222,326,743	86,005,683	61.3	45,256,202	190.0

* Discount rate changed from 4.50% to 7.75%



**RETIREMENT BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Year Ended	Annual Required Contribution	Actual Contributions	Percentage Contributed
June 30, 2008	\$13,823,490	\$ 7,443,277	53.8%
June 30, 2009	15,951,841	8,186,259	51.3
June 30, 2010	18,764,941	9,489,399	50.6
June 30, 2011	18,463,372	12,657,225	68.6
June 30, 2012	20,497,924	15,361,781	74.9
June 30, 2013	23,117,291	18,501,090	80.0

**INSURANCE BENEFITS
SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Year Ended	Annual Required Contribution	Retiree Drug Subsidy (RDS) Contribution	Employer Contributions	Total Contributions	Percentage Contributed
June 30, 2008	\$43,469,735	\$183,564	\$ 7,329,229	\$ 7,512,793	17.3%
June 30, 2009	29,324,666	229,240	7,413,552	7,642,792	26.1
June 30, 2010	30,302,151	273,684	8,369,428	8,643,112	28.5
June 30, 2011	25,772,574	0	11,050,964	11,050,964	42.9
June 30, 2012	28,246,786	0	11,960,468	11,960,468	42.3
June 30, 2013	27,234,229	0	16,828,681	16,828,681	61.8



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2013. Additional information as of the latest actuarial valuation follows.

Retirement Benefits	
Valuation date	6/30/2013
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	30 years
Asset valuation method	5 Year Smoothed Market
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases**	4.5% - 17.0%
Cost-of-living adjustment	None
*Includes price inflation at	3.50%
**Includes wage inflation at	4.50%

Insurance Benefits	
Valuation date	6/30/2013
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	30 years
Asset valuation method	5 Year Smoothed Market
Medical Trend Assumption (Pre-Medicare)	8.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	7.0% - 5.0%
Year of Ultimate Trend	2019
Actuarial assumptions:	
Investment rate of return*	7.75%
*Includes price inflation at	3.50%



SCHEDULE A

Valuation Balance Sheet and Solvency Test

The following valuation balance sheets show the assets and liabilities of the retirement system as of the current valuation date of June 30, 2013 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2012. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date.

VALUATION BALANCE SHEETS SHOWING THE ASSETS AND LIABILITIES OF THE STATE POLICE RETIREMENT SYSTEM

RETIREMENT BENEFITS

	JUNE 30, 2013	JUNE 30, 2012
ASSETS		
Current actuarial value of assets	\$ 241,800,328	\$ 259,791,575
Prospective contributions		
Member contributions	\$ 33,277,558	\$ 35,600,938
Employer normal contributions	32,444,397	34,706,049
Unfunded accrued liability contributions	<u>409,780,326</u>	<u>387,897,090</u>
Total prospective contributions	<u>\$ 475,502,281</u>	<u>\$ 458,204,077</u>
Total assets	<u>\$ 717,302,609</u>	<u>\$ 717,995,652</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 532,387,170	\$ 520,280,073
Present value of benefits payable on account of active members	181,582,414	194,979,006
Present value of benefits payable on account of inactive members	<u>3,333,025</u>	<u>2,736,573</u>
Total liabilities	<u>\$ 717,302,609</u>	<u>\$ 717,995,652</u>



**VALUATION BALANCE SHEET
INSURANCE BENEFITS**

	JUNE 30, 2013	JUNE 30, 2012
ASSETS		
Current actuarial value of assets	\$ 136,321,060	\$ 124,372,072
Prospective contributions		
Member contributions	\$ 845,028	\$ 1,075,267
Employer normal contributions	42,260,569	116,220,351
Unfunded accrued liability contributions	<u>86,005,683</u>	<u>209,531,710</u>
Total prospective contributions	<u>\$ 129,111,280</u>	<u>\$ 326,827,328</u>
 Total assets	 <u><u>\$ 265,432,340</u></u>	 <u><u>\$ 451,199,400</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 136,470,662	\$ 186,024,449
 Present value of benefits payable on account of active members	 125,923,750	 260,940,671
 Present value of benefits payable on account of inactive members	 <u>3,037,928</u>	 <u>4,234,280</u>
 Total liabilities	 <u><u>\$ 265,432,340</u></u>	 <u><u>\$ 451,199,400</u></u>



The following tables provide the solvency test for SPRS members.

**Solvency Test
Retirement Benefits**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 41,391,416	\$ 426,311,368	\$ 119,426,473	\$ 350,891,451	100.0%	72.6%	0.0%
6/30/2009	41,664,469	459,585,353	101,079,046	329,966,989	100.0	62.7	0.0
6/30/2010	42,011,523	475,892,659	94,540,624	304,577,292	100.0	55.2	0.0
6/30/2011	43,574,097	499,194,229	91,611,075	285,580,631	100.0	48.5	0.0
6/30/2012	41,139,306	523,016,647	83,532,712	259,791,575	100.0	41.8	0.0
6/30/2013	39,788,421	535,720,195	76,072,038	241,800,328	100.0	37.7	0.0

**Solvency Test
Insurance Benefits**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	\$ 0	\$ 178,655,245	\$ 266,452,223	\$ 123,961,197	100.0%	69.4%	0.0%
6/30/2009	0	167,091,453	196,939,688	123,526,647	100.0	73.9	0.0
6/30/2010	0	253,580,827	181,379,668	121,175,083	100.0	47.8	0.0
6/30/2011	0	252,439,726	185,988,037	123,687,289	100.0	49.0	0.0
6/30/2012	0	190,258,729	143,645,053	124,372,072	100.0	65.4	0.0
6/30/2013	0	139,508,590	82,818,153	136,321,060	100.0	97.7	0.0



SCHEDULE B

**Development of Actuarial Value of Assets
Retirement Benefits**

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 285,580,631	\$ 259,791,575				
B. Market Value End of Year	252,896,868	248,559,040				
C. Market Value Beginning of Year	279,934,443	252,896,868				
D. Cash Flow						
D1. Contributions	20,516,672	22,994,693				
D2. Benefit Payments	(49,014,930)	(50,589,396)				
D3. Administrative Expenses	(75,970)	(183,930)				
D4. Investment Expenses	<u>(870,407)</u>	<u>(998,995)</u>				
D5. Net	(29,444,635)	(28,777,628)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	2,407,060	24,439,800				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	21,458,075	19,522,080				
E4. Amount for Phased-In Recognition	(19,051,015)	4,917,720				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(3,810,203)	983,544	0	0	0	0
F2. First Prior Year	4,929,792	(3,810,203)	983,544	0	0	0
F3. Second Prior Year	4,395,559	4,929,792	(3,810,203)	983,544	0	0
F4. Third Prior Year	(15,234,391)	4,395,559	4,929,792	(3,810,203)	983,544	0
F5. Fourth Prior Year	<u>(8,083,253)</u>	<u>(15,234,391)</u>	<u>4,395,559</u>	<u>4,929,792</u>	<u>(3,810,203)</u>	<u>983,544</u>
F6. Total Recognized Investment Gain	(17,802,496)	(8,735,699)	6,498,692	2,103,133	(2,826,659)	983,544
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 259,791,575	\$ 241,800,328				
H. Difference Between Market & Actuarial Values	\$ (6,894,707)	\$ 6,758,712	\$ 260,020	\$ (1,843,113)	\$ 983,544	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**Development of Actuarial Value of Assets
Insurance Benefits**

Valuation date June 30:	2012	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$ 123,687,289	\$ 124,372,072				
B. Market Value End of Year	125,567,846	142,830,916				
C. Market Value Beginning of Year	127,367,947	125,567,846				
D. Cash Flow						
D1. Contributions	12,301,298	17,076,979				
D2. Benefit Payments	(10,790,633)	(12,545,291)				
D3. Administrative Expenses	(200,880)	(183,991)				
D4. Investment Expenses	<u>(313,626)</u>	<u>(423,944)</u>				
D5. Net	996,159	3,923,753				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(2,796,260)	13,339,317				
E2. Assumed Rate	4.50%	7.75%				
E3. Amount for Immediate Recognition	6,074,654	10,323,925				
E4. Amount for Phased-In Recognition	(8,870,914)	3,015,392				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(1,774,183)	603,078	0	0	0	0
F2. First Prior Year	3,818,155	(1,774,183)	603,078	0	0	0
F3. Second Prior Year	1,783,777	3,818,155	(1,774,183)	603,078	0	0
F4. Third Prior Year	(6,729,517)	1,783,777	3,818,155	(1,774,183)	603,078	0
F5. Fourth Prior Year	<u>(3,484,262)</u>	<u>(6,729,517)</u>	<u>1,783,777</u>	<u>3,818,155</u>	<u>(1,774,183)</u>	<u>603,078</u>
F6. Total Recognized Investment Gain	(6,386,030)	(2,298,690)	4,430,827	2,647,050	(1,171,105)	603,078
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 124,372,072	\$ 136,321,060				
H. Difference Between Market & Actuarial Values	\$ 1,195,774	\$ 6,509,856	\$ 2,079,029	\$ (568,021)	\$ 603,078	\$ 0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



SCHEDULE C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were based on the actuarial experience study prepared as of June 30, 2008, submitted August 14, 2009, and adopted by the Board on August 20, 2009.

INVESTMENT RATE OF RETURN: 7.75% per annum, compounded annually for retirement and insurance benefits.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases for members are as follows and include inflation at 4.50% per annum:

Service	Annual Rates of		
	Merit & Seniority	Base (Economy)	Increase Next Year
0-1	12.50%	4.50%	17.00%
1-2	7.50%	4.50%	12.00%
2-3	5.50%	4.50%	10.00%
3-4	4.50%	4.50%	9.00%
4-5	3.50%	4.50%	8.00%
5-6	2.50%	4.50%	7.00%
6-7	1.50%	4.50%	6.00%
7-8	2.00%	4.50%	6.50%
8-9	1.00%	4.50%	5.50%
9-10	0.50%	4.50%	5.00%
10 & over	0.00%	4.50%	4.50%



SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal and retirement are shown in the following tables:

Age	Withdrawal and Vesting*	Death**			Service Retirement		
		Male	Female	Disability	Service	Rate ⁺	Rate ⁺⁺
20	2.50%	0.03%	0.01%	0.05%	20	9.00%	
25	2.50	0.03	0.01	0.07	25	22.00	9.00%
30	2.50	0.04	0.02	0.09	30	25.00	22.00
35	2.50	0.04	0.02	0.13	35	33.33	25.00
40	2.50	0.05	0.04	0.20	40		33.33
45	2.50	0.08	0.05	0.33			
50	2.50	0.13	0.07	0.56			
55		0.22	0.11	0.92			
60		0.40	0.22	1.46			

* Select rates of withdrawal apply in the first five years of employment regardless of age. The rates are 20.0%, 7.5%, 3.0%, 3.0% and 3.0%, respectively.

** 75% are presumed to be non-duty related, and 25% are assumed to be duty related.

+ For members whose participation began before 9/1/2008. The annual rate of service retirement is 100% at age 55.

++ For members whose participation began on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.

DEATH AFTER RETIREMENT: The rates of mortality for the period after service retirement are according to the 1983 Group Annuity Mortality Table for all retired members and beneficiaries as of June 30, 2006 and the 1994 Group Annuity Mortality Table for all other members. The Group Annuity Mortality Table set forward 5 years is used for the period after disability retirement. There is little margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.

PERCENT MARRIED: 100% of employees are assumed to be married, with the wife 3 years younger than the husband.

DEPENDENT CHILDREN: For hazardous members' duty-related death benefits, it is assumed that the member is survived by two dependent children each age 6.

ACTUARIAL METHOD: Entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability. For pre-Medicare retiree healthcare liabilities, the current premium charged by the Kentucky Employees' Health Plan (KEHP) is used as the base cost is projected forward using the healthcare trend assumption. No implicit rate subsidy is calculated or recognized as the subsidy is the responsibility of KEHP. For the Medicare-eligible retirees, claims were analyzed and current premiums were utilized with appropriate aging factors applied.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.



HEALTH CARE BENEFITS VALUED: Medical and drug benefits for retirees under age 65 and Medicare eligible.

HEALTH CARE COST TREND RATES: Following is a chart detailing trend assumptions.

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2014	8.5%	7.0%
2015	7.5%	6.5%
2016	6.5%	6.0%
2017	6.0%	5.5%
2018	5.5%	5.0%
2019 and beyond	5.0%	5.0%

HEALTH CARE AGE RELATED MORBIDITY: Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

Participant Age	Annual Increase
65-69	3.0%
70-74	2.5
75-79	2.0
80-84	1.0
85-89	0.5
90 and over	0.0

HEALTH CARE ANTICIPATED PLAN PARTICIPATION: The assumed annual rates of member participation and spouse coverage are as follows:

Participation	100%
Spouse Coverage	100%



HEALTH CARE MONTHLY RATES: Following are charts detailing expected monthly rates for pre-Medicare eligible and post-Medicare eligible retirees for the year following the valuation date.

**MEDICAL INSURANCE RATES
PRE-MEDICARE ELIGIBLE**

Effective January 1, 2013				
	Single	Parent Plus	Couple	Family
Total Premiums				
Standard PPO	\$506.06	\$791.54	\$1,177.80	\$1,314.12
Optimum PPO	\$675.34	\$961.84	\$1,476.00	\$1,642.78
Capitol Choice	\$650.22	\$961.42	\$1,457.90	\$1,613.74

Effective January 1, 2014				
	Single	Parent Plus	Couple	Family
Total Premiums				
LivingWell CDHP	\$733.88	\$1,045.20	\$1,603.94	\$1,785.16
LivingWell PPO	\$699.28	\$995.94	\$1,528.34	\$1,701.04
Standard PPO	\$656.28	\$934.70	\$1,434.36	\$1,596.42
Standard CDHP	\$641.50	\$913.66	\$1,402.06	\$1,560.48

**MEDICAL INSURANCE RATES
MEDICARE ELIGIBLE**

Effective January 1, 2014	
Available Plan	Premium
Kentucky Retirement System Health Plan - Medical Only	\$166.00
Kentucky Retirement System Health Plan - Essential	\$67.62
Kentucky Retirement System Health Plan - Premium	\$212.39
Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.	



SCHEDULE D

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

This schedule summarizes the major retirement benefit provisions of SPRS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year: July 1 through June 30

Normal Retirement:

Members whose participation began before 9/1/2008

Age Requirement 55

Service Requirement At least one month of hazardous duty service credit

Amount If a member has at least 60 months of service, the monthly benefit is 2.50% multiplied by final average compensation, multiplied by years of service.

Final compensation is calculated by taking the average of the highest three (3) fiscal years of salary. If the number of months of service credit during the three (3) year period is less than twenty-four (24), one (1) or more additional fiscal years shall be used.

If a member has less than 60 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 9/1/2008

Age Requirement 60

Service Requirement At least 60 months of hazardous duty service credit

Amount The monthly benefit is the following benefit factor based on service credit at retirement, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.30%
10+ – 20 years	1.50%
20+ – 25 years	2.25%
25+ years	2.50%

Final compensation is calculated by taking the average of the highest three (3) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.



Early Retirement:

Members whose participation began before 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 20 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 55 or has less than 20 years service, whichever is smaller.

Members whose participation began on or after 9/1/2008

Requirement

Age 50 with 15 years of service or any age with 25 years service.

Amount

Normal retirement benefit reduced by 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member is younger than age 60 or has less than 25 years service, whichever is smaller.

Disability:

Age Requirement

None

Service Requirement

60 months (waived if in line of duty disability)

Members whose participation began before 8/1/2004

Normal retirement benefit except if the member's total service credit is less than 20 years, service credit will be added for the period from the last day of paid employment to the member's 55th birthday.

The maximum service credit added will not exceed the total service the member had on this last day of paid employment and the maximum service credit for calculating his retirement allowance, including total service and service added will not exceed 20 years. May not apply if eligible for an unreduced retirement allowance.

A member in a hazardous position who is disabled in the line of duty is entitled to the normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty), except that the monthly retirement allowance payable shall not be less than 25% of the member's monthly final monthly rate of pay. Each dependent child shall receive 10% of the disabled member's monthly final rate of pay; however the total maximum dependent children's benefit shall not exceed 40% of the member's monthly final rate of pay.



Disability (continued):

Members whose participation began on or after 8/1/2004

Normal retirement benefit based on years of service and final compensation determined as of the date of disability (no penalty) or, if larger, 25% of the member's monthly final rate of pay. May apply for disability even after normal retirement age.

Vesting:

Members whose participation began before 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits. Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

55

Members whose participation began on or after 9/1/2008

Age Requirement

None

Service Requirement

60 months. Service purchased after August 1, 2004 does not count toward vesting insurance benefits. Service purchased by employees who began participating on or after August 1, 2004 does not count toward vesting retirement benefits. Recontribution of refunds and omitted service purchases are the exception to this rule for service requirement.

Amount

Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.

Normal Retirement Age

60

Pre-Retirement Death Benefit (not in line of duty):

Requirement

Eligible for Normal or Early Retirement, or any age in active employment with 60 months service, or any age and not in active employment with at least 144 months of service.

Amount

Benefit equal to the benefit the member would have received had the member retired on the day before the date of death and elected a 100% joint and survivor form. Benefit is actuarially reduced if member is less than normal retirement age at the date of death.



Spouse's Pre-Retirement Death Benefit (in line of duty):

<i>Requirement</i>	None
<i>Amount</i>	The spouse may choose (1) a \$10,000 lump sum payment and monthly payments of 25% of the member's final monthly rate of pay or (2) benefit options offered under death not in line of duty.

Dependent Non-Spouse's Death Benefit (in line of duty):

<i>Requirement</i>	None
<i>Amount</i>	The non-spouse may choose (1) a \$10,000 lump sum payment or (2) benefit options offered under death not in line of duty.

Dependent Child's Death Benefit (in line of duty):

<i>Requirement</i>	None
<i>Amount</i>	10% of member's final monthly rate of pay. Dependent child payments cannot exceed 40% of the member's monthly final rate of pay.

Post-Retirement Death Benefit:

<i>Requirement</i>	Retired member in receipt of monthly benefit based on at least 48 months or more of combined service with KERS, CERS or SPRS.
<i>Amount</i>	\$5,000

Member Contributions:

<i>Members whose participation began before 9/1/2008</i>	8% of all creditable compensation. Interest paid on the members' accounts is currently set at 2.5% and per statute, shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.
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<i>Members whose participation began on or after 9/1/2008</i>	9% of all creditable compensation, with 8% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.
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Insurance Plan for Retirees:

Members whose participation began before 7/1/2003

Requirement

In receipt of a monthly retirement allowance.

Amount

The Retirement System pays a portion of lifetime medical premiums for retirees, their spouse and their dependents based on the retired member's years of service credit. The percentage of the monthly contribution rate paid is show in the following table.

Service Credit	Percentage Paid*
0 – 3 years	0%
4 – 9 years	25%
10 – 14 years	50%
15 – 19 years	75%
20 or more years	100%

**100% of the monthly contribution is paid towards the health insurance for a member, member's spouse and dependents if the member is disabled in the line of duty as a result of a duty-related injury, regardless of actual service. 100% of the monthly contribution is paid toward health insurance for the spouse and dependent children of a member who dies in the line of duty regardless of the deceased member's service. The insurance benefit will be provided as long as the spouse and dependent children are eligible for a monthly retirement benefit.*

Members whose participation began on or after 7/1/2003, but before 9/1/2008

Requirement

Monthly retirement allowance with at least 120 months of service at retirement.

Amount

The Retirement System pays \$18.64 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.42 per month for each year of earned. These amounts are shown as of the valuation date and will be increased annually by 1.5%.

Members whose participation began on or after 9/1/2008

Requirement

Monthly retirement allowance with at least 180 months of service at retirement.

Amount

The Retirement System pays \$15 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$10 per month for each year of earned. These amounts will be increased annually by 1.5%.



SCHEDULE E

DETAILED TABULATIONS OF THE DATA

**Schedule of Retired Members Added to and Removed From Rolls
Last Six Fiscal Years**

Year Ending June 30	2008	2009	2010	2011	2012	2013
	<u>Number</u>					
Beginning of Year	1,105	1,135	1,184	1,223	1,263	1,299
Added	42	75	54	52	52	63
Removed	12	26	15	12	16	16
End of Year	1,135	1,184	1,223	1,263	1,299	1,346
	<u>Annual Allowances</u>					
Beginning of Year	\$ 37,208,377	\$ 41,293,017	\$ 44,273,937	\$ 45,515,797	\$ 47,467,404	\$ 49,887,093
Added	4,330,608	3,380,331	1,543,665	2,341,589	3,026,513	1,471,331
Removed	245,968	399,410	301,805	389,982	606,825	452,635
End of Year	\$ 41,293,017	\$ 44,273,937	\$ 45,515,797	\$ 47,467,404	\$ 49,887,093	\$ 50,905,789
% Increase in Allowances	10.98%	7.22%	2.80%	4.29%	5.10%	2.04%
Average Annual Allowance	\$ 36,382	\$ 37,394	\$ 37,217	\$ 37,583	\$ 38,404	\$ 37,820



Retired Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	117	\$ 365,815.37	10	\$ 24,108.26	127	\$ 389,923.63
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	127	408,124.19	1	4,813.66	128	412,937.85
66-2/3% to Beneficiary	81	311,856.59	1	3,044.33	82	314,900.92
50% to Beneficiary	82	301,933.60	1	2,604.67	83	304,538.27
Pop-up Option	484	1,728,257.69	5	14,943.95	489	1,743,201.64
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	33	105,094.14	2	5,001.52	35	110,095.66
Social Security Option						
Age 62 Basic	31	87,540.19	0	0.00	31	87,540.19
Age 62 Survivorship	134	303,673.33	1	7,930.47	135	311,603.80
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	16	42,823.86	1	3,918.67	17	46,742.53
20 Years Certain & Life	35	112,741.52	2	3,978.81	37	116,720.33
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	0	0.00	2	466.41	2	466.41
PLSO 12 Month Survivor	6	20,781.22	0	0.00	6	20,781.22
PLSO 24 Month Survivor	5	13,304.01	0	0.00	5	13,304.01
PLSO 36 Month Survivor	9	16,912.49	0	0.00	9	16,912.49
Total	1,160	\$ 3,818,858.20	26	\$ 70,810.75	1,186	\$ 3,889,668.95



Beneficiary Lives Summary June 30, 2013

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	0	\$ 0.00	3	\$ 2,208.08	3	\$ 2,208.08
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	6	5,751.51	55	148,287.63	61	154,039.14
66-2/3% to Beneficiary	2	1,198.62	8	13,385.10	10	14,583.72
50% to Beneficiary	0	0.00	14	21,592.42	14	21,592.42
Pop-up Option	1	478.19	29	76,703.26	30	77,181.45
10 Years Certain	1	591.51	0	0.00	1	591.51
10 Years Certain & Life	0	0.00	0	0.00	0	0.00
Social Security Option						
Age 62 Basic	0	0.00	2	2,281.46	2	2,281.46
Age 62 Survivorship	0	0.00	33	64,195.52	33	64,195.52
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	0	0.00	0	0.00
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	0	0.00	0	0.00	0	0.00
15 Years Certain & Life	0	0.00	0	0.00	0	0.00
20 Years Certain & Life	1	6,685.69	4	6,862.09	5	13,547.78
5 Years Certain	1	2,259.08	0	0.00	1	2,259.08
PLSO 12 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 12 Month Survivor	0	0.00	0	0.00	0	0.00
PLSO 24 Month Survivor	0	0.00	0	0.00	0	0.00
PLSO 36 Month Survivor	0	0.00	0	0.00	0	0.00
Total	12	\$ 16,964.60	148	\$ 335,515.56	160	\$ 352,480.16



**Retired and Beneficiary Information June 30, 2013
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	24	\$ 900,092	11	\$ 187,201	12	\$ 81,201	47	\$ 1,168,494
45-49	111	4,198,663	5	93,085	2	29,103	118	4,320,851
50-54	149	6,162,303	6	114,196	9	139,325	164	6,415,824
55-59	148	6,204,847	8	117,019	9	111,058	165	6,432,924
60-64	277	11,774,269	7	106,390	20	524,844	304	12,405,503
65-69	211	8,411,178	7	177,860	32	885,647	250	9,474,685
70-74	105	3,676,001	1	1,145	15	431,976	121	4,109,122
75-79	56	2,051,546	4	102,756	14	530,061	74	2,684,362
80-84	37	1,563,196	1	5,780	21	679,321	59	2,248,297
85-89	15	725,427	0	0	18	602,508	33	1,327,935
90 & Over	3	103,075	0	0	8	214,717	11	317,792
Totals	1,136	\$ 45,770,596	50	\$ 905,431	160	\$ 4,229,762	1,346	\$ 50,905,789



**Total Active Members as of June 30, 2013
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20 Avg Pay									
20-24 Avg Pay	24 \$15,970								24 \$15,970
25-29 Avg Pay	122 \$35,305	15 \$47,227							137 \$36,610
30-34 Avg Pay	69 \$39,037	86 \$49,779	26 \$51,832						181 \$45,979
35-39 Avg Pay	29 \$38,488	54 \$50,680	115 \$54,127	19 \$58,807					217 \$51,589
40-44 Avg Pay	8 \$44,267	24 \$50,511	64 \$54,131	97 \$63,153	24 \$58,124	4 \$59,550			221 \$57,872
44-49 Avg Pay	3 \$33,276	9 \$50,433	19 \$54,033	24 \$64,927	17 \$67,230	3 \$67,146	2 \$79,364		77 \$60,282
50-54 Avg Pay	1 \$45,366	5 \$49,365	6 \$46,269	8 \$60,164	8 \$69,885	1 \$85,250	4 \$77,504	2 \$69,918	35 \$61,294
55-59 Avg Pay				1 \$66,911			3 \$79,498	4 \$75,881	8 \$76,116
60-64 Avg Pay								1 \$85,352	1 \$85,352
65-69 Avg Pay									
70 & over Avg Pay				1 \$69,378					1 \$69,378
Totals	256	193	230	150	49	8	9	7	902
Avg Pay	\$35,154	\$49,943	\$53,656	\$62,793	\$63,204	\$65,611	\$78,582	\$75,530	\$50,173