



# Cavanaugh Macdonald

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November 10, 2010

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-fourth annual actuarial valuation of the Kentucky Employees Retirement System, the fifty-first annual actuarial valuation of the County Employees Retirement System, and the fifty-second annual actuarial valuation of the State Police Retirement System 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 rate 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, 2010 actuarial valuation will be used by the Board of Trustees to certify the employer contribution rates for the fiscal year beginning July 1, 2011 and ending June 30, 2012.

**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. Prior to the June 30, 2007 actuarial valuation, each year any actuarial gains or losses, along with any other changes in the actuarial liability (such as the retiree COLA or other benefit improvements) were established as a new amortization base to be amortized over the following 30 years. Effective with the June 30, 2007 actuarial valuation, all amortization bases have been combined and amortized over a single 30-year period beginning June 30, 2007. The amortization period will decrease by one each year going forward (i.e. 29-year amortization June 30, 2008, 28-year amortization June 30, 2009, and so on).



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. However, the current valuation contribution rate does not anticipate any future cost of living increases to benefit recipients as required by statute. Should these cost of living increases occur in the future, the contribution rate for the pension fund will be expected to increase as a percentage of payroll in the absence of material aggregate experience gains.

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 combined UAL bases will be amortized over a 30 year period beginning June 30, 2007. The amortization period will decrease by one each year in the future.

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 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.

### **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 limited the plans ability to correct the declining funding levels. As of June 30, 2010 the funding levels for the pension funds are as follows:

<b>System</b>	<b>Pension Funding Level</b>
KERS Non-Hazardous Pension Fund	38.3%
KERS Hazardous Pension Fund	73.1%
CERS Non-Hazardous Pension Fund	65.6%
CERS Hazardous Pension Fund	65.5%
SPRS Pension Fund	49.7%

The funding level for the insurance funds is not anywhere near 100% at this time, and the Board's funding objective is to increase this funded level consistently over time. Recent employer contribution rate reductions under KERS and SPRS have significantly limited this improvement. The recent adoption of new actuarial assumptions and the application of GASB Statement 43 requirements have further reduced the measured funding level. As of June 30, 2010 the funding level for the insurance funds are as follows:



System	Insurance Funding Level
KERS Non-Hazardous Insurance Fund	10.6%
KERS Hazardous Insurance Fund	63.7%
CERS Non-Hazardous Insurance Fund	40.9%
CERS Hazardous Insurance Fund	41.4%
SPRS Insurance Fund	27.9%

### 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. 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 January 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.

Sincerely,

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

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

### Summary of June 30, 2010 Actuarial Valuation Results

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
<b><u>Recommended Contribution Rate (Fiscal Year 2011-2012)</u></b>					
Pension Fund Contribution	24.30%	14.11%	11.70%	17.91%	39.80%
Insurance Fund Contribution	<u>16.41</u>	<u>19.73</u>	<u>9.59</u>	<u>23.74</u>	<u>54.83</u>
Recommended Employer Contribution	40.71%	33.84%	21.29%	41.65%	94.63%
<b><u>Funded Status as of Valuation Date</u></b>					
<b><i>Pension Fund</i></b>					
Actuarial Liability	\$11,004,795,089	\$688,149,451	\$8,459,022,280	\$2,672,151,907	\$612,444,806
Actuarial Value of Assets	4,210,215,585	502,729,009	5,546,857,291	1,749,464,388	304,577,292
Unfunded Actuarial Liability on Actuarial Value of Assets	6,794,579,504	185,420,442	2,912,164,989	922,687,519	307,867,514
Funding Level as a % of Actuarial Value of Assets	38.3%	73.1%	65.6%	65.5%	49.7%
Market Value of Assets	\$3,503,007,035	\$443,511,663	\$4,819,933,717	\$1,506,787,429	\$264,944,089
Unfunded Actuarial Liability on Market Value of Assets	7,501,788,054	244,637,788	3,639,088,563	1,165,364,478	347,500,717
Funding Level on Market Value of Assets	31.8%	64.5%	57.0%	56.4%	43.3%
<b><i>Insurance Fund</i></b>					
Actuarially Accrued Liability	\$4,466,136,041	\$493,297,529	\$3,158,340,174	\$1,674,703,216	\$434,960,495
Actuarial Value of Assets	471,341,628	314,427,296	1,293,038,593	692,769,770	121,175,083
Unfunded Actuarial Liability as a % of Actuarial Value of Assets	3,994,794,413	178,870,233	1,865,301,581	981,933,446	313,785,412
Funding Level as a % of Actuarial Value of Assets	10.6%	63.7%	40.9%	41.4%	27.9%
Market Value of Assets	\$371,002,484	\$271,395,843	\$1,096,581,872	\$586,826,965	\$104,526,550
Unfunded Actuarial Liability as a % of Market Value of Assets	4,095,133,557	221,901,686	2,061,758,302	1,087,876,251	330,433,945
Funding Level on Market Value of Assets	8.3%	55.0%	34.7%	35.0%	24.0%
<b><u>Member Data</u></b>					
Number of Active Members	47,090	4,291	84,681	9,562	961
Total Annual Payroll (Active Members)	\$1,815,146,388	\$143,557,944	\$2,236,855,380	\$466,548,660	\$51,506,712
Average Annual Pay (Active Members)	\$38,546	\$33,456	\$26,415	\$48,792	\$53,597
Number of Retired Members & Beneficiaries	37,945	2,835	41,038	6,068	1,223
Average Annual Retirement Allowance	\$21,133	\$14,503	\$11,029	\$24,212	\$37,217
Number of Vested Inactive Members	5,875	319	9,430	545	55



### Additional Valuation Notes

In addition to the valuation results presented in the three reports that follow, certain calculations were made to round out the presentation and put the results in greater perspective. That information follows.

- **Recent Contribution Shortfall** – Although it has happened periodically in the past, there has been an ongoing contribution shortfall for KERS and SPRS since the 2002-2003 fiscal year. That shortfall has placed additional pressure on contribution rates, and that impact is compounding. The table below shows the recommended and budgeted contribution rates as a percent of payroll for KERS and SPRS over the last eight fiscal years. The rates shown are the combined rates for retirement and insurance.

Fiscal Year	Recommended Rate	Budgeted Rate
<u>KERS Non-Hazardous</u>		
2002-2003	5.89%	3.76%
2003-2004	7.53	5.89
2004-2005	10.29	5.89
2005-2006	13.62	5.89
2006-2007	17.13	7.75
2007-2008	34.23	8.50
2008-2009	28.60	10.01
2009-2010	31.29	11.61
<u>KERS Hazardous</u>		
2002-2003	18.84%	17.60%
2003-2004	18.84	18.84
2004-2005	19.47	18.84
2005-2006	21.59	18.84
2006-2007	23.32	22.00
2007-2008	47.11	24.25
2008-2009	34.78	24.35
2009-2010	35.54	24.69
<u>SPRS</u>		
2002-2003	21.58%	17.37%
2003-2004	21.58	21.58
2004-2005	28.08	21.58
2005-2006	34.83	21.58
2006-2007	42.30	25.50
2007-2008	72.00	28.00
2008-2009	60.14	30.07
2009-2010	61.87	33.08



Had the recommended contributions been made over this period of time, the contribution rates recommended as a result of the June 30, 2010 valuations would have been reduced by 4.72% of payroll for KERS Non-Hazardous, 2.65% for KERS Hazardous and 7.48% for SPRS.

- Market Value of Assets and COLA Liability Impact on Funding Ratio - The funding ratio for all the Plans is based on the actuarial liabilities and asset values computed for the purpose of meeting funding requirements on the basis required by state law. This basis does not take all actuarial liabilities and investment performance to date into account. If the Retirement and Insurance results were combined, if the market value instead of actuarial value of assets were used, and if a 1.5% annual cost-of-living adjustment for retirement benefits were assumed to be in effect for all future years, then the funding ratio for the combined Retirement and Insurance plans would be lower, as shown in the table below.

System	Reported Funding Ratio	Adjusted Funding Ratio
KERS Non-Hazardous	30.3%	22.9%
KERS Hazardous	69.2	55.9
CERS Non-Hazardous	58.9	46.6
CERS Hazardous	56.2	44.0
SPRS	40.6	32.5

- Impact of Blended Interest Rates on Insurance Valuations - The June 30, 2010 Insurance Plan valuations recognize the parameters required by GASB Statements No. 43 and 45. One of the parameters is that a blended interest rate must be used when the benefits are not being fully funded. This rate reflects the level of advanced funding that is occurring. Because of the contribution rate shortfall noted above, blended rates were required for KERS Non-Hazardous and SPRS. The rate used for the June 30, 2010 valuation is 4.50% for both KERS Non-Hazardous and SPRS. If KERS Non-Hazardous and SPRS were being fully funded, an interest rate of 7.75% would be used, reducing liabilities and therefore contribution rates. The impact on rates is shown in the table below.

Insurance Plan	"Blended" Contribution Rate	"Full Funding" Contribution Rate
KERS Non-Hazardous	16.41%	10.83%
SPRS	54.83	29.52



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

**Prepared as of June 30, 2010**



# Cavanaugh Macdonald

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November 10, 2010

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 year beginning July 1, 2011. The date of the valuation was June 30, 2010.

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.

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 meets 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,

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

TJC:kc

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## TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	5
IV	Comments on Valuation	6
V	Derivation of Experience Gains and Losses	8
VI	Required Contribution Rates	13
VII	Accounting Information	16
<u>Schedule</u>		
A	Valuation Balance Sheet and Solvency Test	20
B	Development of Actuarial Value of Assets	28
C	Statement of Actuarial Assumptions and Methods	32
D	Summary of Main Benefit and Contribution Provisions	37
E	Detailed Tabulations of the Data	46



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

**PREPARED AS OF JUNE 30, 2010**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2010, 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.

**SUMMARY OF PRINCIPAL RESULTS**

	KERS Non-Hazardous		KERS Hazardous		KERS Totals	
	6/30/2010	6/30/2009	6/30/2010	6/30/2009	6/30/2010	6/30/2009
<b>Contributions for next fiscal year:</b>						
Retirement	24.30%	21.77%	14.11%	14.11%		
Insurance	<u>16.41</u>	<u>16.81</u>	<u>19.73</u>	<u>20.26</u>	N/A	N/A
Total	40.71%	38.58%	33.84%	34.37%		
<b>Funded status as of valuation date:</b>						
<b>Retirement</b>						
Actuarial accrued liability	\$11,004,795,089	\$10,658,549,532	\$688,149,451	\$674,411,781	\$11,692,944,540	\$11,332,961,313
Actuarial value of assets	4,210,215,585	4,794,611,365	502,729,009	502,503,287	4,712,944,594	5,297,114,652
Unfunded liability on actuarial value of assets	6,794,579,504	5,863,938,167	185,420,442	171,908,494	6,979,999,946	6,035,846,661
Funded ratio on actuarial value of assets	38.26%	44.98%	73.06%	74.51%	40.31%	46.74%
Market value of assets	\$3,503,007,035	\$3,584,196,429	\$443,511,663	\$388,913,374	\$3,946,518,698	\$3,973,109,803
Unfunded liability on market value of assets	7,501,788,054	7,074,353,103	244,637,788	285,498,407	7,746,425,842	7,359,851,510
Funded ratio on market value of assets	31.83%	33.63%	64.45%	57.67%	33.75%	35.06%
<b>Insurance</b>						
Actuarial accrued liability	\$4,466,136,041	\$4,507,325,571	\$493,297,529	\$491,132,170	\$4,959,433,570	\$4,998,457,741
Actuarial value of assets	471,341,628	534,172,580	314,427,296	301,634,592	785,768,924	835,807,172
Unfunded liability on actuarial value of assets	3,994,794,413	3,973,152,991	178,870,233	189,497,578	4,173,664,646	4,162,650,569
Funded ratio on actuarial value of assets	10.55%	11.85%	63.74%	61.42%	15.84%	16.72%
Market value of assets	\$371,002,484	\$365,771,088	\$271,395,843	\$219,537,255	\$642,398,327	\$585,308,343
Unfunded liability on market value of assets	4,095,133,557	4,141,554,483	221,901,686	271,594,915	4,317,035,243	4,413,149,398
Funded ratio on market value of assets	8.31%	8.12%	55.02%	44.70%	12.95%	11.71%
<b>Demographic data as of valuation date:</b>						
Number of retired participants and beneficiaries	37,945	37,883	2,835	2,648	40,780	40,531
Number of vested former members	5,875	5,745	319	303	6,194	6,048
Number of former members due a refund	31,806	28,770	2,836	2,753	34,642	31,523
Number of active members	47,090	46,060	4,291	4,334	51,381	50,394
Total salary	\$1,815,146,388	\$1,754,412,912	\$143,557,944	\$146,043,576	\$1,958,704,332	\$1,900,456,488
Average salary	\$38,546	\$38,090	\$33,456	\$33,697	\$38,121	\$37,712



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 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, plan designs for two of the Health Insurance plans that cover Medicare eligible retirees will change for Plan Year 2011. The changes are summarized below.
  - The KRS Health Plan Essential will replace the KRS Health Plan Plus.
  - The medical coverage under the KRS Health Plan Essential includes an increase to the annual deductible and the prescription drug coverage has been altered to reflect the same coverage as described in the Standard Medicare Part D benefit parameters.
  - The annual deductible, out-of-pocket maximum and prescription drug co-payments have increased under the KRS Health Plan Premium.
  - Plan design changes have also been implemented for Plan Year 2011 for the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky.
5. 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.
6. The investment rate of return for developing insurance liabilities and contribution rates shown in this report for June 30, 2009 and June 30, 2010 is 4.50% for KERS Non-Hazardous and 7.75% for KERS Hazardous. The lower rate for KERS Non-Hazardous is 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, 2010 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	47,090	\$1,815,146,388	\$38,546	43.4	9.0
Hazardous	4,291	143,557,944	33,456	41.4	7.0
Total in KERS	51,381	\$1,958,704,332	\$38,121	43.2	8.9

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
6/30/2005	47,118	\$1,655,907,288	\$35,144	1.7%
6/30/2006	46,707	1,702,230,777	36,445	3.7
6/30/2007	47,913	1,780,223,493	37,155	1.9
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

### **SCHEDULE OF HAZARDOUS KERS ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2005	4,274	\$131,687,088	\$30,811	(2.4%)
6/30/2006	4,320	138,747,320	32,117	4.2
6/30/2007	4,349	144,838,020	33,304	3.7
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)



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	32,196	\$732,950,896	\$22,765	66.3
Disability	1,808	21,888,837	12,107	63.8
Beneficiary	3,941	47,042,178	11,937	69.8
Total in KERS	37,945	\$801,881,911	\$21,133	66.5

\* 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	2,448	\$37,904,152	\$15,484	61.9
Disability	126	990,064	7,858	58.0
Beneficiary	261	2,220,584	8,508	59.5
Total in KERS	2,835	\$41,114,800	\$14,503	61.5

This valuation also includes 40,836 inactive members (37,681 Non-Hazardous and 3,155 Hazardous; of which 5,875 Non-Hazardous are vested and 319 Hazardous are vested).



**SECTION III – ASSETS**

- As of June 30, 2010 the total market value of assets amounted to \$4,588,917,025 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, 2010**

Member Group	Retirement	Insurance	KERS Total
Non-Hazardous	\$3,503,007,035	\$371,002,484	\$3,874,009,519
Hazardous	<u>443,511,663</u>	<u>271,395,843</u>	<u>714,907,506</u>
Total	\$3,946,518,698	\$642,398,327	\$4,588,917,025

- The five-year smoothed market related actuarial value of assets used for the current valuation was \$5,498,713,518 . Schedule B shows the development of the actuarial value of assets as of June 30, 2010. The following table shows the actuarial value of assets allocated among member groups.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	June 30, 2010	June 30, 2009
<b>Retirement</b>		
Non-Hazardous	\$ 4,210,215,585	\$ 4,794,611,365
Hazardous	<u>502,729,009</u>	<u>502,503,287</u>
Total	\$ 4,712,944,594	\$ 5,297,114,652
<b>Insurance</b>		
Non-Hazardous	\$ 471,341,628	\$ 534,172,580
Hazardous	<u>314,427,296</u>	<u>301,634,592</u>
Total	\$ 785,768,924	\$ 835,807,172
<b>KERS Total</b>		
Non-Hazardous	\$ 4,681,557,213	\$ 5,328,783,945
Hazardous	<u>817,156,305</u>	<u>804,137,879</u>
Total	\$ 5,498,713,518	\$ 6,132,921,824



## **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, 2010. 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 \$13,319,173,213, of which \$8,552,261,977 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$219,153,066 is for the prospective benefits payable on account of present inactive members, and \$4,547,758,170 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 \$4,712,944,594 as of June 30, 2010. The difference of \$8,606,228,619 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, \$939,963,643 is the present value of future contributions expected to be made by members, and the balance of \$7,666,264,976 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 3.77% of payroll for non-hazardous members and 6.68% of payroll for hazardous members are required to provide the benefits of the System for the average new member of KERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$686,265,030. When this amount is subtracted from \$7,666,264,976, which is the present value of the total future contributions to be made by the employers, there remains \$6,979,999,946 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 20.07% 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 6.92% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$6,794,579,504 for non-hazardous members and \$185,420,442 for hazardous members over 27 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 0.46% of payroll for non-hazardous members and 0.51% 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 \$6,803,183,212, of which \$2,708,543,170 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$304,501,593 is for the prospective benefits payable on account of present inactive members, and \$3,790,138,449 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 \$785,768,924 as of June 30, 2010. The difference of \$6,017,414,288 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, \$28,503,267 is the present value of future contributions expected to be made by members, and the balance of \$5,988,911,021 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 8.02% of payroll for non-hazardous members and 12.91% of payroll for hazardous members are required to provide the benefits of the System for the average new member of KERS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$1,815,246,375. When this amount is subtracted from \$5,988,911,021, which is the present value of the total future contributions to be made by the employers, there remains \$4,173,664,646 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 8.15% 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 6.68% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$3,994,794,413 for non-hazardous members and \$178,870,233 for hazardous members over 27 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 0.24% 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, 2010 is shown below (\$ millions).

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

		Non-Hazardous Group		Hazardous Group		Total
(1)	UAAL* as of 6/30/09	\$ 5,863.9		\$ 171.9		\$ 6,035.8
(2)	Normal cost from last valuation	74.7		11.6		86.3
(3)	Employer contributions	144.1		17.7		161.8
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	454.7		13.5		468.2
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 6,249.2		\$ 179.3		\$ 6,428.5
(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)	\$ 6,249.2		\$ 179.3		\$ 6,428.5
(9)	Actual UAAL as of 6/30/10	\$ 6,794.6		\$ 185.4		\$ 6,980.0
(10)	Gain/(loss): (8) - (9)	\$ (545.4)		\$ (6.1)		\$ (551.5)
(11)	Accrued liabilities as of 6/30/09	\$ 10,658.5		\$ 674.4		\$ 11,332.9
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(5.1%)		(0.9%)		(4.9%)

\*Unfunded actuarial accrued liability.



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

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/09	\$ 3,973.2	\$ 189.5	\$ 4,162.7
(2)	Normal cost from last valuation	148.9	19.5	168.4
(3)	Expected employer contributions	<u>290.8</u>	<u>29.4</u>	<u>320.2</u>
(4)	Interest accrual: Non-Haz: [(1) + (2) - (3)] x .045 Haz: [(1) + (2) - (3)] x .0775	172.4	13.9	186.3
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 4,003.7	\$ 193.5	\$ 4,197.2
(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)	Data correction**	(53.0)	0.4	(52.6)
(9)	Expected UAAL after changes: (5) + (6) + (7) + (8)	\$ 3,950.7	\$ 193.9	\$ 4,144.6
(10)	Actual UAAL as of 6/30/10	\$ 3,994.8	\$ 178.9	\$ 4,173.7
(11)	Gain/(loss): (9) - (10)	\$ (44.1)	\$ 15.0	\$ (29.1)
(12)	Accrued liabilities as of 6/30/09	\$ 4,507.3	\$ 491.1	\$ 4,998.4
(13)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(1.0%)	3.1%	(0.6%)

\* *Unfunded actuarial accrued liability.*

\*\*\$53 million gain due to 506 KERS Non-Hazardous retirees with split service coded as covered for health insurance under other systems this year who were coded with coverage in KERS Non-Hazardous in prior years. Most of these 506 retirees are now coded with coverage in CERS Non-Hazardous. It was determined during conversion to the new data system that most of these retirees are covered for health insurance under other systems because the majority of their service was not KERS Non-Hazardous.

\$0.4 million loss due to 43 KERS Hazardous retirees with split service coded as covered for health insurance under KERS Hazardous this year who were coded without coverage in KERS Hazardous in prior years. Most of these 43 retirees were coded as covered for health insurance under CERS Non-Hazardous in prior years and are now coded without coverage in that system. It was determined during conversion to the new data system that these retirees are covered for health insurance under KERS Hazardous because the majority of their service was KERS Hazardous and not with the other systems.



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (39.4)	\$ (4.3)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(4.1)	2.9
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.9)	(1.8)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	6.9	10.9
<b>Pay or Claims Increases.</b> 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.	68.5	306.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(8.4)	(8.5)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(324.2)	(32.7)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	14.2	58.5
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(258.0)</u>	<u>(375.1)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (545.4)	\$ (44.1)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>53.0</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (545.4)	\$ 8.9



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (31.7)	\$ (2.9)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.4	0.8
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.1	(0.1)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	15.9	9.3
<b>Pay or Claims Increases.</b> 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.	7.3	36.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(1.4)	(0.8)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(27.2)	(14.0)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	5.1	9.9
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>25.4</u>	<u>(23.2)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (6.1)	\$ 15.0
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>(0.4)</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (6.1)	\$ 14.6



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (71.1)	\$ (7.2)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3.7)	3.7
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.8)	(1.9)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	22.8	20.2
<b>Pay or Claims Increases.</b> 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.	75.8	342.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(9.8)	(9.3)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(351.4)	(46.7)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	19.3	68.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(232.6)</u>	<u>(398.3)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (551.5)	\$ (29.1)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>52.6</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (551.5)	\$ 23.5



**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 2011/2012 fiscal year.

**Required Contribution Rates  
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 145,716,762	8.03%
(2) Disability benefits	11,150,373	0.61
(3) Survivor benefits	2,363,904	0.13
(4) Total	\$ 159,231,039	8.77%
B. Member Contributions	\$ 90,757,319	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 68,473,720	3.77%
D. Administrative Expenses	\$ 8,349,673	0.46%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/09 Valuation:	\$ 317,832,133	17.51%
(2) Change due to:		
a. Active decrements	\$ 2,007,711	0.11%
b. Pay increases	(3,669,823)	(0.20)
c. Retiree mortality	(763,338)	(0.04)
d. Investment return	17,382,439	0.96
e. COLA	5,461,593	0.30
f. Assumption Change	0	0.00
g. Other	26,020,363	1.42
h. Total Change	\$ 46,438,944	2.56%
(3) UAAL Contribution Based on 6/30/10 Valuation: [E(1) +E(2)h]	\$ 364,271,077	20.07%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 441,094,470	24.30%

*\*Based on 28 year amortization of the UAAL from June 30, 2009 and 27 years from June 30, 2010*



**Required Contribution Rates  
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 19,432,605	13.51%
(2) Disability benefits	1,267,546	0.86
(3) Survivor benefits	376,330	0.25
(4) Total	<u>\$ 21,076,481</u>	<u>14.68%</u>
B. Member Contributions	\$ 11,484,636	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 9,591,845	6.68%
D. Administrative Expenses	\$ 732,146	0.51%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/09 Valuation:	\$ 8,857,525	6.17%
(2) Change due to:		
a. Active decrements	\$ 820,394	0.57%
b. Pay increases	(389,374)	(0.27)
c. Retiree mortality	(272,557)	(0.19)
d. Investment return	1,459,939	1.02
e. COLA	267,726	0.19
f. Assumption Change	0	0.00
g. Other	(802,891)	(0.57)
h. Total Change	<u>\$ 1,083,238</u>	<u>0.75%</u>
(3) UAAL Contribution Based on 6/30/10 Valuation: [E(1) +E(2)h]	\$ 9,940,763	6.92%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 20,264,754	14.11%

\* Based on 28 year amortization of the UAAL from June 30, 2009 and 27 years from June 30, 2010



**Required Contribution Rates  
Non-Hazardous Insurance**

	<b>Contribution for</b>	<b>Amount</b>	<b>% of Payroll</b>
A.	Normal Cost:	\$ 147,431,092	8.12%
B.	Member Contributions*	\$ 1,815,146	0.10%
C.	Employer Normal Cost: [A - B]	\$ 145,615,946	8.02%
D.	Administrative Expenses	\$ 4,332,929	0.24%
E.	Unfunded Actuarial Accrued Liability**:	\$ 147,955,349	8.15%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 297,904,224	16.41%

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

*\*\* Based on 27 year amortization of the UAAL from June 30, 2010*

**Required Contribution Rates  
Hazardous Insurance**

	<b>Contribution for</b>	<b>Amount</b>	<b>% of Payroll</b>
A.	Normal Cost:	\$ 18,694,203	13.02%
B.	Member Contributions*	\$ 157,914	0.11%
C.	Employer Normal Cost: [A - B]	\$ 18,536,289	12.91%
D.	Administrative Expenses	\$ 200,324	0.14%
E.	Unfunded Actuarial Accrued Liability**:	\$ 9,589,593	6.68%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 28,326,206	19.73%

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

*\*\* Based on 27 year amortization of the UAAL from June 30, 2010*





**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, 2010**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	37,945	2,835	40,780
Terminated employees entitled to benefits but not yet receiving benefits	37,681	3,155	40,836
Active Members	<u>47,090</u>	<u>4,291</u>	<u>51,381</u>
Total	122,716	10,281	132,997

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 ) )
<b>Non-Hazardous Members</b>						
6/30/2005	\$ 5,578,685,746	\$ 7,579,074,839	\$ 2,000,389,093	73.6%	\$ 1,655,907,288	120.8%
6/30/2006	5,394,086,323	8,994,826,247	3,600,739,924	60.0	1,702,230,777	211.5
6/30/2007	5,396,782,459	9,485,939,277	4,089,156,818	56.9	1,780,223,493	229.7
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
<b>Hazardous Members</b>						
6/30/2005	\$ 405,288,662	\$ 438,994,257	\$ 33,705,595	92.3%	\$ 131,687,088	25.6%
6/30/2006	427,984,192	508,655,903	80,671,711	84.1	138,747,320	58.1
6/30/2007	467,287,809	558,992,329	91,704,520	83.6	144,838,020	63.3
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
<b>Total KERS Members</b>						
6/30/2005	\$ 5,983,974,408	\$ 8,018,069,096	\$ 2,034,094,688	74.6%	\$ 1,787,594,376	113.8%
6/30/2006	5,822,070,515	9,503,482,150	3,681,411,635	61.3	1,840,978,097	200.0
6/30/2007	5,864,070,268	10,044,931,606	4,180,861,338	58.4	1,925,061,513	217.2
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



**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))
<b>Non-Hazardous Members</b>						
6/30/2005	\$ 607,068,351	\$ 2,680,559,188	\$ 2,073,490,837	22.7%	\$ 1,655,907,288	125.2%
6/30/2006	611,350,765	7,815,480,774	7,204,130,009	7.8	1,702,230,777	423.2
6/30/2007	621,171,658	5,201,355,055	4,580,183,397	11.9	1,780,223,493	257.3
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
<b>Hazardous Members</b>						
6/30/2005	\$ 187,947,644	\$ 386,844,695	\$ 198,897,051	48.6%	\$ 131,687,088	151.0%
6/30/2006	212,833,318	621,237,856	408,404,538	34.3	138,747,320	294.4
6/30/2007	251,536,756	504,842,981	253,306,225	49.8	144,838,020	174.9
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
<b>Total KERS Members</b>						
6/30/2005	\$ 795,015,995	\$ 3,067,403,883	\$ 2,272,387,888	25.9%	\$ 1,787,594,376	127.1%
6/30/2006	824,184,083	8,436,718,630	7,612,534,547	9.8	1,840,978,097	413.5
6/30/2007	872,708,414	5,706,198,036	4,833,489,622	15.3	1,925,061,513	251.1
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2010. Additional information as of the latest actuarial valuation follows.

### Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2010	6/30/2010
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	27 years	27 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	6/30/2010	6/30/2010
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	27 years	27 years
Asset valuation method	5 Year Smoothed Market	5 Year Smoothed Market
Medical Trend Assumption (Pre-Medicare)	10.5% - 5.0%	10.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	9.0% - 5.0%	9.0% - 5.0%
Year Ultimate Trend	2018	2018
Actuarial assumptions:		
Investment rate of return*	4.50%	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, 2010 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2009. 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, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 4,210,215,585	\$ 4,794,611,365
Prospective contributions		
Member contributions	\$ 842,839,073	\$ 836,173,026
Employer normal contributions	605,961,561	604,255,306
Unfunded accrued liability contributions	<u>6,794,579,504</u>	<u>5,863,938,167</u>
Total prospective contributions	<u>\$ 8,243,380,138</u>	<u>\$ 7,304,366,499</u>
Total assets	<u>\$ 12,453,595,723</u>	<u>\$ 12,098,977,864</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,129,008,670	\$ 8,034,479,089
Present value of benefits payable on account of active members	4,123,837,921	3,893,822,173
Present value of benefits payable on account of inactive members	<u>200,749,132</u>	<u>170,676,602</u>
Total liabilities	<u>\$ 12,453,595,723</u>	<u>\$ 12,098,977,864</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 502,729,009	\$ 502,503,287
Prospective contributions		
Member contributions	\$ 97,124,570	\$ 97,638,990
Employer normal contributions	80,303,469	88,591,324
Unfunded accrued liability contributions	<u>185,420,442</u>	<u>171,908,494</u>
Total prospective contributions	<u>\$ 362,848,481</u>	<u>\$ 358,138,808</u>
 Total assets	 <u>\$ 865,577,490</u>	 <u>\$ 860,642,095</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 423,253,307	\$ 396,432,087
 Present value of benefits payable on account of active members	 423,920,249	 446,669,739
 Present value of benefits payable on account of inactive members	 <u>18,403,934</u>	 <u>17,540,269</u>
 Total liabilities	 <u>\$ 865,577,490</u>	 <u>\$ 860,642,095</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 4,712,944,594	\$ 5,297,114,652
Prospective contributions		
Member contributions	\$ 939,963,643	\$ 933,812,016
Employer normal contributions	686,265,030	692,846,630
Unfunded accrued liability contributions	<u>6,979,999,946</u>	<u>6,035,846,661</u>
Total prospective contributions	<u>\$ 8,606,228,619</u>	<u>\$ 7,662,505,307</u>
 Total assets	 <u>\$ 13,319,173,213</u>	 <u>\$ 12,959,619,959</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,552,261,977	\$ 8,430,911,176
 Present value of benefits payable on account of active members	 4,547,758,170	 4,340,491,912
 Present value of benefits payable on account of inactive members	 <u>219,153,066</u>	 <u>188,216,871</u>
 Total liabilities	 <u>\$ 13,319,173,213</u>	 <u>\$ 12,959,619,959</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 471,341,628	\$ 534,172,580
Prospective contributions		
Member contributions	\$ 26,873,691	\$ 12,903,248
Employer normal contributions	1,668,710,243	1,774,858,516
Unfunded accrued liability contributions	<u>3,994,794,413</u>	<u>3,973,152,991</u>
Total prospective contributions	<u>\$ 5,690,378,347</u>	<u>\$ 5,760,914,755</u>
 Total assets	 <u>\$ 6,161,719,975</u>	 <u>\$ 6,295,087,335</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,456,024,556	\$ 2,586,293,577
 Present value of benefits payable on account of active members	 3,417,185,921	 3,433,220,247
 Present value of benefits payable on account of inactive members	 <u>288,509,498</u>	 <u>275,573,511</u>
 Total liabilities	 <u>\$ 6,161,719,975</u>	 <u>\$ 6,295,087,335</u>





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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 314,427,296	\$ 301,634,592
Prospective contributions		
Member contributions	\$ 1,629,576	\$ 726,289
Employer normal contributions	146,536,132	156,871,546
Unfunded accrued liability contributions	<u>178,870,233</u>	<u>189,497,578</u>
Total prospective contributions	<u>\$ 327,035,941</u>	<u>\$ 347,095,413</u>
 Total assets	 <u>\$ 641,463,237</u>	 <u>\$ 648,730,005</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 252,518,614	\$ 227,398,616
 Present value of benefits payable on account of active members	 372,952,528	 406,606,640
 Present value of benefits payable on account of inactive members	 <u>15,992,095</u>	 <u>14,724,749</u>
 Total liabilities	 <u>\$ 641,463,237</u>	 <u>\$ 648,730,005</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 785,768,924	\$ 835,807,172
Prospective contributions		
Member contributions	\$ 28,503,267	\$ 13,629,537
Employer normal contributions	1,815,246,375	1,931,730,062
Unfunded accrued liability contributions	<u>4,173,664,646</u>	<u>4,162,650,569</u>
Total prospective contributions	<u>\$ 6,017,414,288</u>	<u>\$ 6,108,010,168</u>
 Total assets	 <u>\$ 6,803,183,212</u>	 <u>\$ 6,943,817,340</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,708,543,170	\$ 2,813,692,193
 Present value of benefits payable on account of active members	 3,790,138,449	 3,839,826,887
 Present value of benefits payable on account of inactive members	 <u>304,501,593</u>	 <u>290,298,260</u>
 Total liabilities	 <u>\$ 6,803,183,212</u>	 <u>\$ 6,943,817,340</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)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2005*	\$ 866,044,474	\$ 5,056,247,608	\$ 1,656,782,757	\$ 5,578,685,746	100.0%	93.2%	0.0%
6/30/2006	866,050,799	5,881,990,853	2,246,784,595	5,394,086,323	100.0	77.0	0.0
6/30/2007	878,842,180	6,437,235,593	2,169,861,504	5,396,782,459	100.0	70.2	0.0
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

\*Reported by prior actuarial firm.

**Solvency Test  
Retirement 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)				
6/30/2005*	\$ 75,098,321	\$ 213,310,550	\$ 150,585,386	\$ 405,288,662	100.0%	100.0%	77.6%
6/30/2006	87,092,538	262,446,606	159,116,759	427,984,192	100.0	100.0	49.3
6/30/2007	88,670,847	306,492,350	163,829,132	467,287,809	100.0	100.0	44.0
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

\*Reported by prior actuarial firm.



**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)				
6/30/2005*	\$ 0	\$ 1,550,619,458	\$ 1,129,939,730	\$ 607,068,351	100.0%	39.2%	0.0%
6/30/2006	0	3,543,125,375	4,272,355,400	611,350,765	100.0	17.3	0.0
6/30/2007	0	2,569,197,567	2,632,157,488	621,171,658	100.0	24.2	0.0
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

*\*Reported by prior actuarial firm.*

**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)				
6/30/2005*	\$ 0	\$ 187,883,650	\$ 198,961,045	\$ 187,947,644	100.0%	100.0%	0.0%
6/30/2006	0	234,058,715	387,179,141	212,833,318	100.0	90.9	0.0
6/30/2007	0	201,189,546	303,653,435	251,536,756	100.0	100.0	16.6
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

*\*Reported by prior actuarial firm.*

**SCHEDULE B**

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



Valuation date June 30:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 5,318,792,893	\$ 4,794,611,365				
B. Market Value End of Year	3,584,196,429	3,503,007,035				
C. Market Value Beginning of Year	5,056,867,294	3,584,196,429				
D. Cash Flow						
D1. Contributions	220,744,764	234,830,687				
D2. Benefit Payments	(817,640,554)	(834,513,585)				
D3. Administrative Expenses	(8,099,760)	(8,423,658)				
D4. Investment Expenses	<u>(5,331,690)</u>	<u>(12,902,243)</u>				
D5. Net	(610,327,240)	(621,008,799)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(862,343,625)	539,819,405				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	373,795,328	267,113,337				
E4. Amount for Phased-In Recognition	(1,236,138,953)	272,706,068				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(247,227,791)	54,541,214	0	0	0	0
F2. First Prior Year	(129,965,994)	(247,227,791)	54,541,214	0	0	0
F3. Second Prior Year	76,241,954	(129,965,994)	(247,227,791)	54,541,214	0	0
F4. Third Prior Year	15,910,299	76,241,954	(129,965,994)	(247,227,791)	54,541,214	0
F5. Fourth Prior Year	<u>(2,608,084)</u>	<u>15,910,299</u>	<u>76,241,954</u>	<u>(129,965,994)</u>	<u>(247,227,791)</u>	<u>54,541,214</u>
F6. Total Recognized Investment Gain	(287,649,616)	(230,500,318)	(246,410,617)	(322,652,571)	(192,686,577)	54,541,214
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 4,794,611,365	\$ 4,210,215,585				
H. Difference Between Market & Actuarial Values	\$ (1,210,414,936)	\$ (707,208,550)	\$ (460,797,933)	\$ (138,145,362)	\$ 54,541,214	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 502,132,214	\$ 502,503,287				
B. Market Value End of Year	388,913,374	443,511,663				
C. Market Value Beginning of Year	484,440,015	388,913,374				
D. Cash Flow						
D1. Contributions	28,285,357	28,768,529				
D2. Benefit Payments	(38,833,245)	(39,082,467)				
D3. Administrative Expenses	(717,016)	(737,035)				
D4. Investment Expenses	<u>(467,886)</u>	<u>(1,479,708)</u>				
D5. Net	(11,732,790)	(12,530,681)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(83,793,851)	67,128,970				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	37,575,472	31,192,269				
E4. Amount for Phased-In Recognition	(121,369,323)	35,936,701				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(24,273,865)	7,187,340	0	0	0	0
F2. First Prior Year	(12,007,500)	(24,273,865)	7,187,340	0	0	0
F3. Second Prior Year	8,869,886	(12,007,500)	(24,273,865)	7,187,340	0	0
F4. Third Prior Year	1,788,273	8,869,886	(12,007,500)	(24,273,865)	7,187,340	0
F5. Fourth Prior Year	<u>151,597</u>	<u>1,788,273</u>	<u>8,869,886</u>	<u>(12,007,500)</u>	<u>(24,273,865)</u>	<u>7,187,340</u>
F6. Total Recognized Investment Gain	(25,471,609)	(18,435,866)	(20,224,139)	(29,094,025)	(17,086,525)	7,187,340
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 502,503,287	\$ 502,729,009				
H. Difference Between Market & Actuarial Values	\$ (113,589,913)	\$ (59,217,346)	\$ (38,993,207)	\$ (9,899,182)	\$ 7,187,340	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 603,197,761	\$ 534,172,580				
B. Market Value End of Year	365,771,088	371,002,484				
C. Market Value Beginning of Year	574,480,809	365,771,088				
D. Cash Flow						
D1. Contributions	95,326,154	116,616,692				
D2. Benefit Payments	(145,035,850)	(157,817,320)				
D3. Administrative Expenses	(4,106,387)	(4,332,929)				
D4. Investment Expenses	<u>(370,766)</u>	<u>(1,138,191)</u>				
D5. Net	(54,186,849)	(46,671,748)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(154,522,872)	51,903,144				
E2. Assumed Rate	4.50%	4.50%				
E3. Amount for Immediate Recognition	25,011,541	16,573,385				
E4. Amount for Phased-In Recognition	(179,534,413)	35,329,759				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(35,906,883)	7,065,952	0	0	0	0
F2. First Prior Year	(13,538,974)	(35,906,883)	7,065,952	0	0	0
F3. Second Prior Year	6,195,642	(13,538,974)	(35,906,883)	7,065,952	0	0
F4. Third Prior Year	3,451,674	6,195,642	(13,538,974)	(35,906,883)	7,065,952	0
F5. Fourth Prior Year	<u>(51,332)</u>	<u>3,451,674</u>	<u>6,195,642</u>	<u>(13,538,974)</u>	<u>(35,906,883)</u>	<u>7,065,952</u>
F6. Total Recognized Investment Gain	(39,849,873)	(32,732,589)	(36,184,263)	(42,379,905)	(28,840,931)	7,065,952
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 534,172,580	\$ 471,341,628				
H. Difference Between Market & Actuarial Values	\$ (168,401,492)	\$ (100,339,144)	\$ (64,154,881)	\$ (21,774,976)	\$ 7,065,952	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 288,161,759	\$ 301,634,592				
B. Market Value End of Year	219,537,255	271,395,843				
C. Market Value Beginning of Year	269,299,859	219,537,255				
D. Cash Flow						
D1. Contributions	21,326,365	23,107,913				
D2. Benefit Payments	(10,303,721)	(13,455,544)				
D3. Administrative Expenses	(143,862)	(200,324)				
D4. Investment Expenses	<u>(120,294)</u>	<u>(551,875)</u>				
D5. Net	10,758,488	8,900,170				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(60,521,092)	42,958,418				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	21,412,586	17,932,279				
E4. Amount for Phased-In Recognition	(81,933,678)	25,026,139				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(16,386,736)	5,005,228	0	0	0	0
F2. First Prior Year	(9,611,455)	(16,386,736)	5,005,228	0	0	0
F3. Second Prior Year	5,330,751	(9,611,455)	(16,386,736)	5,005,228	0	0
F4. Third Prior Year	1,622,467	5,330,751	(9,611,455)	(16,386,736)	5,005,228	0
F5. Fourth Prior Year	<u>346,732</u>	<u>1,622,467</u>	<u>5,330,751</u>	<u>(9,611,455)</u>	<u>(16,386,736)</u>	<u>5,005,228</u>
F6. Total Recognized Investment Gain	(18,698,241)	(14,039,745)	(15,662,212)	(20,992,963)	(11,381,508)	5,005,228
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 301,634,592	\$ 314,427,296				
H. Difference Between Market & Actuarial Values	\$ (82,097,337)	\$ (43,031,453)	\$ (27,369,241)	\$ (6,376,278)	\$ 5,005,228	\$ 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 benefits. A blended rate is necessary to meet GASB Statement 43 requirements for insurance benefits. The current blended rate for KERS non-hazardous is 4.50% and for KERS hazardous is 7.75%.

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 <sup>+</sup>	Service Retirement <sup>++</sup>
		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 <sup>+</sup>	Rate <sup>++</sup>
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.



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

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2011	10.5%	9.0%
2012	9.5%	8.5%
2013	8.5%	7.5%
2014	7.5%	7.0%
2015	6.5%	6.5%
2016	6.0%	6.0%
2017	5.5%	5.5%
2018 and beyond	5.0%	5.0%

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

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

Medical	Non-Hazardous	Hazardous
Participation	90%	100%



Following are charts detailing expected premiums for pre- and post-Medicare for the year following the valuation date.

**MEDICAL INSURANCE CONTRIBUTION RATES  
PRE-MEDICARE ELIGIBLE**

2010						
	Single	Parent Plus	Couple	Family		
<b>TOTAL PREMIUMS</b>						
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56		
Optimum PPO	\$ 616.28	\$ 889.54	\$ 1,363.40	\$ 1,515.36		
Capitol Choice	\$ 594.14	\$ 896.06	\$ 1,347.50	\$ 1,490.60		

2011						
	Single	Parent Plus	Couple	Family		
<b>TOTAL PREMIUMS</b>						
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56		
Optimum PPO	\$ 650.30	\$ 905.42	\$ 1,405.66	\$ 1,565.88		
Capitol Choice	\$ 625.68	\$ 909.02	\$ 1,387.36	\$ 1,537.92		

**MEDICARE ELIGIBLE**

Effective January 1, 2011	Self-Supporting (Used for OPEB claims cost)	Funding rates (Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 163.61	\$ 163.00
Kentucky Retirement System Health Plan - Essential	\$ 182.03	\$ 163.00
Kentucky Retirement System Health Plan - Premium	\$ 375.11	\$ 355.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted. In addition, the claims costs for the Essential and Premium plans are adjusted to reflect the front end CMS reimbursement of \$54.71 per member per month due to the EGWP.



**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.

**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 shown above. 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.

**ASSETS:** 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.



## 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:**

*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 5.0% per year for the first five years and 4.0% 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 5.0% per year for the first five years and 4.0% 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.

*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.

<i>Amount</i>	Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.
<i>Normal Retirement Age</i>	65 for non-hazardous members and 60 for hazardous members.

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

<i>Requirement</i>	Eligible for Normal or Early Retirement, or any age with 60 months service.
<i>Amount</i>	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) – Hazardous Plan:**

<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



**Non-Hazardous Member Contributions:**

*Members whose participation began before 9/1/2008*

5% of all creditable compensation. Interest paid on the members' accounts will be set at 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 will be set at 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 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*
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 benefit.*

For Medicare-eligible retirees, the percentage paid by the Insurance Fund is applied to the funding rate premiums rather than the self-supporting amounts.

*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 \$12.32 per month for each year of earned service for retirees. This amount is shown as of the valuation date and is indexed annually based on the CPI prior to July 1, 2008 and by 1.5% thereafter.

*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 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*
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 benefit.*

For Medicare-eligible retirees, the percentage paid by the Insurance Fund is applied to the funding rate premiums rather than the self-supporting amounts.

*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 \$18.48 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.32 per month for each year of earned. These amounts are shown as of the valuation date and are indexed annually based on the CPI prior to July 1, 2008 and by 1.5% thereafter.

*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**

<b>Year Ending June 30</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
			<b><u>Number</u></b>			
Beginning of Year	28,892	30,770	32,140	33,849	35,307	37,883
Added	2,481	2,481	2,440	2,573	3,465	1,162
Removed	603	1,111	731	1,115	889	1,100
End of Year	30,770	32,140	33,849	35,307	37,883	37,945
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 449,410,400	\$ 509,347,800	\$ 566,167,003	\$ 625,435,416	\$ 710,505,270	\$ 812,559,070
Added	56,489,600	65,942,585	65,965,990	102,305,405	110,700,043	865,483
Removed	5,298,200	9,123,382	6,697,577	17,235,551	8,646,243	11,542,643
End of Year	\$ 509,347,800	\$ 566,167,003	\$ 625,435,416	\$ 710,505,270	\$ 812,559,070	\$ 801,881,911
% Increase in Allowances	13.34%	11.31%	10.47%	13.60%	14.36%	-1.31%
Average Annual Allowance	\$ 16,553	\$ 17,616	\$ 18,472	\$ 20,124	\$ 21,449	\$ 21,133

\*Reported by prior actuarial firm.



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

Year Ending June 30	2005*	2006	2007	2008	2009	2010
	<b><u>Number</u></b>					
Beginning of Year	1,549	1,752	1,980	2,202	2,404	2,648
Added	234	256	241	261	339	282
Removed	31	28	19	59	95	95
End of Year	1,752	1,980	2,202	2,404	2,648	2,835
	<b><u>Annual Allowances</u></b>					
Beginning of Year	\$ 16,099,000	\$ 19,640,748	\$ 23,381,489	\$ 27,528,837	\$ 33,588,993	\$ 38,695,501
Added	3,415,500	3,929,666	4,509,381	6,565,454	5,443,628	3,315,361
Removed	191,000	188,829	362,129	505,250	337,120	896,062
End of Year	\$ 19,640,748	\$ 23,381,489	\$ 27,528,837	\$ 33,588,993	\$ 38,695,501	\$ 41,114,800
% Increase in Allowances	22.00%	19.05%	17.94%	22.01%	15.20%	6.25%
Average Annual Allowance	\$ 11,210	\$ 11,809	\$ 12,502	\$ 13,972	\$ 14,613	\$ 14,503

\*Reported by prior actuarial firm.





**Non-Hazardous  
Retired Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	3,168	\$ 5,917,150.29	9,028	\$ 13,544,571.45	12,196	\$ 19,461,721.74
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	1,795	3,405,112.32	727	893,634.28	2,522	4,298,746.60
66-2/3% to Beneficiary	811	2,302,489.76	383	820,547.77	1,194	3,123,037.53
50% to Beneficiary	1,092	2,741,096.99	1,200	2,482,970.32	2,292	5,224,067.31
Pop-up Option	3,521	8,741,726.49	2,846	5,776,055.69	6,367	14,517,782.18
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	906	1,552,445.95	1,879	2,804,868.19	2,785	4,357,314.14
Social Security Option						
Age 62 Basic	432	1,173,950.15	976	1,951,829.07	1,408	3,125,779.22
Age 62 Survivorship	878	2,161,563.44	574	1,217,638.47	1,452	3,379,201.91
Parital 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	380	611,369.20	485	760,186.04	865	1,371,555.24
20 Years Certain & Life	392	846,675.06	452	761,015.79	844	1,607,690.85
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	89	143,630.57	311	454,332.74	400	597,963.31
PLSO 24 Month Basic	42	49,274.59	173	205,458.35	215	254,732.94
PLSO 36 Month Basic	187	156,540.89	438	328,092.43	625	484,633.32
PLSO 12 Month Survivor	122	244,423.98	106	176,201.45	228	420,625.43
PLSO 24 Month Survivor	98	141,778.24	85	118,282.42	183	260,060.66
PLSO 36 Month Survivor	262	280,067.86	166	138,330.90	428	418,398.76
<b>Total</b>	<b>14,175</b>	<b>\$ 30,469,295.78</b>	<b>19,829</b>	<b>\$ 32,434,015.36</b>	<b>34,004</b>	<b>\$ 62,903,311.14</b>



**Hazardous  
Retired Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	362	\$ 398,089.65	282	\$ 267,490.79	644	\$ 665,580.44
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	192	219,674.59	17	17,025.05	209	236,699.64
66-2/3% to Beneficiary	74	91,447.33	17	20,123.25	91	111,570.58
50% to Beneficiary	125	179,448.70	35	55,224.84	160	234,673.54
Pop-up Option	585	813,792.44	112	140,593.22	697	954,385.66
10 Years Certain	20	32,768.00	3	4,051.15	23	36,819.15
10 Years Certain & Life	98	95,650.41	44	34,370.20	142	130,020.61
Social Security Option						
Age 62 Basic	53	103,115.85	29	49,609.07	82	152,724.92
Age 62 Survivorship	132	302,006.54	15	24,083.72	147	326,090.26
Parital 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	42	49,937.02	13	10,741.48	55	60,678.50
20 Years Certain & Life	46	50,352.34	17	24,824.59	63	75,176.93
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	14	12,170.18	15	12,549.24	29	24,719.42
PLSO 24 Month Basic	16	15,547.06	12	10,188.70	28	25,735.76
PLSO 36 Month Basic	48	39,469.45	27	21,450.04	75	60,919.49
PLSO 12 Month Survivor	24	29,818.40	6	4,999.73	30	34,818.13
PLSO 24 Month Survivor	22	29,132.13	10	11,683.84	32	40,815.97
PLSO 36 Month Survivor	52	51,609.09	15	18,146.55	67	69,755.64
<b>Total</b>	<b>1,905</b>	<b>\$ 2,514,029.18</b>	<b>669</b>	<b>\$ 727,155.46</b>	<b>2,574</b>	<b>\$ 3,241,184.64</b>



**Non-Hazardous  
Beneficiary Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	5	\$ 1,222.43	14	\$ 15,360.19	19	\$ 16,582.62
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	244	186,893.67	1,511	1,422,603.23	1,755	1,609,496.90
66-2/3% to Beneficiary	31	32,349.90	286	235,842.27	317	268,192.17
50% to Beneficiary	90	51,588.84	458	266,935.98	548	318,524.82
Pop-up Option	84	117,541.84	377	498,661.17	461	616,203.01
10 Years Certain	58	56,789.28	71	75,610.77	129	132,400.05
10 Years Certain & Life	32	38,162.74	40	47,238.74	72	85,401.48
Social Security Option						
Age 62 Basic	1	264.16	5	3,024.45	6	3,288.61
Age 62 Survivorship	43	68,288.92	223	372,195.43	266	440,484.35
Parital Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	8	3,450.84	8	3,450.84
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	3	1,949.28	7	6,032.20	10	7,981.48
15 Years Certain & Life	24	27,637.01	58	90,258.01	82	117,895.02
20 Years Certain & Life	31	35,042.76	73	109,980.39	104	145,023.15
5 Years Certain	52	56,099.25	43	39,012.01	95	95,111.26
PLSO 12 Month Basic	0	0.00	1	1,739.03	1	1,739.03
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	0	0.00	2	2,283.89	2	2,283.89
PLSO 12 Month Survivor	3	3,237.64	6	4,283.07	9	7,520.71
PLSO 24 Month Survivor	3	4,144.20	11	6,155.61	14	10,299.81
PLSO 36 Month Survivor	11	7,512.75	32	30,789.56	43	38,302.31
<b>Total</b>	<b>715</b>	<b>\$ 688,724.67</b>	<b>3,226</b>	<b>\$ 3,231,456.84</b>	<b>3,941</b>	<b>\$ 3,920,181.51</b>



**Hazardous  
Beneficiary Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	1	\$ 5.61	4	\$ 880.29	5	\$ 885.90
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	9	3,354.71	100	72,914.49	109	76,269.20
66-2/3% to Beneficiary	0	0.00	11	4,539.36	11	4,539.36
50% to Beneficiary	1	445.39	18	6,957.11	19	7,402.50
Pop-up Option	7	2,771.30	36	21,625.48	43	24,396.78
10 Years Certain	2	3,344.99	13	14,829.38	15	18,174.37
10 Years Certain & Life	2	1,120.18	3	1,735.94	5	2,856.12
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	1	380.84	16	25,489.89	17	25,870.73
Parital 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	254.85	3	2,088.67	4	2,343.52
15 Years Certain & Life	3	1,191.88	2	818.57	5	2,010.45
20 Years Certain & Life	0	0.00	5	1,322.32	5	1,322.32
5 Years Certain	3	3,114.82	8	8,376.40	11	11,491.22
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	122.05	1	122.05
PLSO 12 Month Survivor	0	0.00	1	1,025.01	1	1,025.01
PLSO 24 Month Survivor	0	0.00	1	766.76	1	766.76
PLSO 36 Month Survivor	3	1,040.89	6	4,531.54	9	5,572.43
<b>Total</b>	<b>33</b>	<b>\$ 17,025.46</b>	<b>228</b>	<b>\$ 168,023.26</b>	<b>261</b>	<b>\$ 185,048.72</b>



**Non-Hazardous Members  
Retired and Beneficiary Information June 30, 2010  
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	111	\$ 2,749,493	42	\$ 447,020	88	\$ 728,089	241	\$ 3,924,603
45-49	822	\$ 23,221,083	104	\$ 1,417,193	63	\$ 889,036	989	\$ 25,527,311
50-54	2,811	\$ 91,533,598	166	\$ 2,041,540	115	\$ 1,429,017	3,092	\$ 95,004,154
55-59	5,161	\$ 160,476,406	293	\$ 3,849,146	216	\$ 3,619,406	5,670	\$ 167,944,958
60-64	6,690	\$ 177,375,069	364	\$ 4,786,326	306	\$ 4,806,122	7,360	\$ 186,967,517
65-69	5,513	\$ 114,061,642	321	\$ 3,798,729	381	\$ 6,237,001	6,215	\$ 124,097,372
70-74	4,104	\$ 71,514,150	268	\$ 3,031,060	447	\$ 6,296,100	4,819	\$ 80,841,310
75-79	2,970	\$ 43,626,054	150	\$ 1,603,060	488	\$ 6,625,551	3,608	\$ 51,854,665
80-84	2,166	\$ 29,347,918	65	\$ 627,579	513	\$ 6,686,554	2,744	\$ 36,662,051
85-89	1,273	\$ 14,216,952	26	\$ 239,297	564	\$ 5,130,188	1,863	\$ 19,586,437
90 & Over	575	\$ 4,828,531	9	\$ 47,887	760	\$ 4,595,115	1,344	\$ 9,471,533
Totals	32,196	\$ 732,950,896	1,808	\$ 21,888,837	3,941	\$ 47,042,178	37,945	\$ 801,881,912



**Hazardous Members  
Retired and Beneficiary Information June 30, 2010  
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	41	\$ 871,980	8	\$ 59,380	25	\$ 180,649	74	\$ 1,112,009
45-49	151	\$ 2,996,567	19	\$ 167,770	5	\$ 81,407	175	\$ 3,245,745
50-54	277	\$ 5,919,947	16	\$ 183,329	20	\$ 194,840	313	\$ 6,298,117
55-59	468	\$ 9,024,848	29	\$ 233,498	24	\$ 226,436	521	\$ 9,484,783
60-64	648	\$ 9,873,830	26	\$ 235,762	34	\$ 324,254	708	\$ 10,433,846
65-69	426	\$ 5,174,306	13	\$ 58,437	39	\$ 292,850	478	\$ 5,525,593
70-74	238	\$ 2,482,185	8	\$ 34,196	34	\$ 334,309	280	\$ 2,850,689
75-79	125	\$ 907,799	7	\$ 17,692	38	\$ 231,261	170	\$ 1,156,752
80-84	62	\$ 400,385			21	\$ 138,972	83	\$ 539,356
85-89	10	\$ 209,041			15	\$ 109,938	25	\$ 318,979
90 & Over	2	\$ 43,263			6	\$ 105,668	8	\$ 148,931
Totals	2,448	\$ 37,904,152	126	\$ 990,064	261	\$ 2,220,584	2,835	\$ 41,114,800



**Total Non-Hazardous Active Members as of June 30, 2010  
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	16								16
Avg Pay	\$21,076								\$21,076
20-24	1,533	105							1,638
Avg Pay	\$25,871	\$32,851							\$26,319
25-29	3,622	801	35						4,458
Avg Pay	\$29,058	\$33,521	\$34,304						\$29,901
30-34	2,837	2,114	659	16					5,626
Avg Pay	\$31,729	\$37,551	\$38,975	\$49,490					\$34,816
35-39	3,065	1,853	1,570	451	43				6,982
Avg Pay	\$30,976	\$39,313	\$41,605	\$44,603	\$48,932				\$36,570
40-44	1,961	1,485	1,287	1,087	588	103			6,511
Avg Pay	\$33,234	\$40,362	\$43,658	\$47,049	\$49,957	\$56,538			\$41,105
44-49	1,780	1,476	1,166	862	955	332	182	30	6,783
Avg Pay	\$31,993	\$38,652	\$43,968	\$46,670	\$50,372	\$54,058	\$59,363	\$58,147	\$41,883
50-54	1,572	1,308	1,129	818	807	259	111	83	6,087
Avg Pay	\$34,010	\$38,242	\$42,112	\$45,282	\$49,456	\$52,947	\$58,129	\$64,874	\$41,651
55-59	1,136	1,148	941	722	643	207	84	95	4,976
Avg Pay	\$35,841	\$38,294	\$41,274	\$44,520	\$48,125	\$51,701	\$62,680	\$67,840	\$42,005
60-64	580	725	626	459	396	112	60	44	3,002
Avg Pay	\$38,779	\$39,411	\$42,859	\$45,666	\$46,938	\$48,962	\$52,398	\$63,766	\$42,930
65-69	110	180	169	128	78	17	9	12	703
Avg Pay	\$37,126	\$39,610	\$43,471	\$48,194	\$46,594	\$56,617	\$77,283	\$66,576	\$43,841
70 & over	59	62	68	58	44	3	3	11	308
Avg Pay	\$47,401	\$34,258	\$35,718	\$42,059	\$49,319	\$47,092	\$52,004	\$87,958	\$42,934
<b>Totals</b>	<b>18,271</b>	<b>11,257</b>	<b>7,650</b>	<b>4,601</b>	<b>3,554</b>	<b>1,033</b>	<b>449</b>	<b>275</b>	<b>47,090</b>
<b>Avg Pay</b>	<b>\$31,518</b>	<b>\$38,316</b>	<b>\$42,176</b>	<b>\$45,867</b>	<b>\$49,193</b>	<b>\$53,024</b>	<b>\$59,058</b>	<b>\$65,985</b>	<b>\$38,546</b>



**Total Hazardous Active Members as of June 30, 2010  
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	188 \$25,032	6 \$27,638							194 \$25,112
25-29 Avg Pay	470 \$27,388	61 \$31,020	3 \$32,864						534 \$27,834
30-34 Avg Pay	321 \$28,722	221 \$32,774	41 \$33,156	1 \$29,928					584 \$30,569
35-39 Avg Pay	359 \$28,219	187 \$34,574	140 \$38,669	32 \$40,623					718 \$32,465
40-44 Avg Pay	206 \$29,365	162 \$34,797	112 \$39,132	113 \$44,695	21 \$49,216				614 \$36,080
44-49 Avg Pay	178 \$28,431	122 \$33,983	91 \$39,213	79 \$43,673	49 \$44,770	1 \$46,896			520 \$35,511
50-54 Avg Pay	134 \$28,275	136 \$35,298	86 \$39,122	66 \$47,117	46 \$49,284	3 \$56,080	3 \$65,532		474 \$37,332
55-59 Avg Pay	110 \$29,551	110 \$34,248	70 \$41,199	60 \$40,301	28 \$45,029	1 \$55,956		2 \$60,888	381 \$36,111
60-64 Avg Pay	43 \$30,992	73 \$35,378	47 \$41,553	38 \$44,689	25 \$53,249	1 \$55,812			227 \$39,442
65-69 Avg Pay	5 \$31,366	17 \$31,676	11 \$44,366	6 \$45,424	1 \$53,100				40 \$37,725
70 & over Avg Pay	3 \$24,512	1 \$20,940	1 \$31,740						5 \$25,243
<b>Totals Avg Pay</b>	<b>2,017 \$28,082</b>	<b>1,096 \$33,996</b>	<b>602 \$39,110</b>	<b>395 \$43,871</b>	<b>170 \$47,879</b>	<b>6 \$54,484</b>	<b>3 \$65,532</b>	<b>2 \$60,888</b>	<b>4,291 \$33,456</b>





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

**Prepared as of June 30, 2010**



# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

November 10, 2010

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, 2011. The date of the valuation was June 30, 2010.

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.

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 meets 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,

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

TJC:kc

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## **TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Item</u></b>	<b><u>Page No.</u></b>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	5
IV	Comments on Valuation	6
V	Derivation of Experience Gains and Losses	8
VI	Required Contribution Rates	13
VII	Accounting Information	16
<b><u>Schedule</u></b>		
A	Valuation Balance Sheet and Solvency Test	20
B	Development of Actuarial Value of Assets	28
C	Statement of Actuarial Assumptions and Methods	32
D	Summary of Main Benefit and Contribution Provisions	37
E	Detailed Tabulations of the Data	46



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

**PREPARED AS OF JUNE 30, 2010**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2010, 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.

**SUMMARY OF PRINCIPAL RESULTS**

	CERS Non-Hazardous		CERS Hazardous		CERS Totals	
	6/30/2010	6/30/2009	6/30/2010	6/30/2009	6/30/2010	6/30/2009
<b>Contributions for next fiscal year:</b>						
Retirement	11.70%	10.03%	17.91%	16.79%		
Insurance	<u>9.59</u>	<u>9.78</u>	<u>23.74</u>	<u>23.27</u>	N/A	N/A
Total	21.29%	19.81%	41.65%	40.06%		
<b>Funded status as of valuation date:</b>						
Retirement						
Actuarial accrued liability	\$8,459,022,280	\$7,912,913,512	\$2,672,151,907	\$2,578,444,600	\$11,131,174,187	\$10,491,358,112
Actuarial value of assets	\$5,546,857,291	\$5,650,789,991	\$1,749,464,388	\$1,751,487,540	\$7,296,321,679	\$7,402,277,531
Unfunded liability on actuarial value of assets	\$2,912,164,989	\$2,262,123,521	\$922,687,519	\$826,957,060	\$3,834,852,508	\$3,089,080,581
Funded ratio on actuarial value of assets	65.57%	71.41%	65.47%	67.93%	65.55%	70.56%
Market value of assets	\$4,819,933,717	\$4,330,593,934	\$1,506,787,429	\$1,320,522,868	\$6,326,721,146	\$5,651,116,802
Unfunded liability on market value of assets	\$3,639,088,563	\$3,582,319,578	\$1,165,364,478	\$1,257,921,732	\$4,804,453,041	\$4,840,241,310
Funded ratio on market value of assets	56.98%	54.73%	56.39%	51.21%	56.84%	53.86%
Insurance						
Actuarial accrued liability	\$3,158,340,174	\$3,070,386,018	\$1,674,703,216	\$1,593,548,263	\$4,833,043,390	\$4,663,934,281
Actuarial value of assets	\$1,293,038,593	\$1,216,631,769	\$692,769,770	\$651,130,782	\$1,985,808,363	\$1,867,762,551
Unfunded liability on actuarial value of assets	\$1,865,301,581	\$1,853,754,249	\$981,933,446	\$942,417,481	\$2,847,235,027	\$2,796,171,730
Funded ratio on actuarial value of assets	40.94%	39.62%	41.37%	40.86%	41.09%	40.05%
Market value of assets	\$1,096,581,872	\$894,905,841	\$586,826,965	\$483,269,862	\$1,683,408,837	\$1,378,175,703
Unfunded liability on market value of assets	\$2,061,758,302	\$2,175,480,177	\$1,087,876,251	\$1,110,278,401	\$3,149,634,553	\$3,285,758,578
Funded ratio on market value of assets	34.72%	29.15%	35.04%	30.33%	34.83%	29.55%
<b>Demographic data as of valuation date:</b>						
Number of retired participants and beneficiaries	41,038	39,756	6,068	5,808	47,106	45,564
Number of vested former members	9,430	9,182	545	549	9,975	9,731
Number of former members due a refund	54,574	51,093	2,086	1,973	56,660	53,066
Number of active members	84,681	83,724	9,562	9,757	94,243	93,481
Total salary	\$2,236,855,380	\$2,183,611,848	\$466,548,660	\$469,315,464	\$2,703,404,040	\$2,652,927,312
Average salary	\$26,415	\$26,081	\$48,792	\$48,100	\$28,685	\$28,379



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 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, plan designs for two of the Health Insurance plans that cover Medicare eligible retirees will change for Plan Year 2011. The changes are summarized below.
  - The KRS Health Plan Essential will replace the KRS Health Plan Plus.
  - The medical coverage under the KRS Health Plan Essential includes an increase to the annual deductible and the prescription drug coverage has been altered to reflect the same coverage as described in the Standard Medicare Part D benefit parameters.
  - The annual deductible, out-of-pocket maximum and prescription drug co-payments have increase under the KRS Health Plan Premium.
  - Plan design changes have also been implemented for Plan Year 2011 for the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky.
5. 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, 2010 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	84,681	\$2,236,855,380	\$26,415	46.6	8.8
Hazardous	9,562	466,548,660	48,792	38.8	9.2
<b>Total in CERS</b>	<b>94,243</b>	<b>\$2,703,404,040</b>	<b>\$28,685</b>	<b>45.8</b>	<b>8.9</b>

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
6/30/2005	81,240	\$1,885,275,000	\$23,206	2.8%
6/30/2006	83,694	1,982,437,473	23,687	2.1
6/30/2007	84,920	2,076,848,328	24,457	3.3
6/30/2008	85,221	2,166,612,648	25,423	3.9
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

**SCHEDULE OF HAZARDOUS CERS ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2005	9,464	\$411,121,728	\$43,441	3.5%
6/30/2006	9,635	426,927,550	44,310	2.0
6/30/2007	10,063	458,998,956	45,613	2.9
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



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	34,263	\$391,107,167	\$11,415	68.5
Disability	3,048	32,070,380	10,522	63.7
Beneficiary	3,727	29,436,003	7,898	66.8
Total in CERS	41,038	\$452,613,550	\$11,029	68.0

\* 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	5,013	\$131,984,715	\$26,328	59.8
Disability	413	6,470,660	15,667	53.6
Beneficiary	642	8,461,437	13,180	51.5
Total in CERS	6,068	\$146,916,812	\$24,212	58.5

This valuation also includes 66,635 inactive members (64,004 Non-Hazardous and 2,631 Hazardous; of which 9,430 Non-Hazardous are vested and 545 Hazardous are vested).



**SECTION III – ASSETS**

- As of June 30, 2010 the total market value of assets amounted to \$8,010,129,983 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, 2010**

Member Group	Retirement	Insurance	CERS Total
Non-Hazardous	\$4,819,933,717	\$1,096,581,872	\$5,916,515,589
Hazardous	<u>1,506,787,429</u>	<u>586,826,965</u>	<u>2,093,614,394</u>
Total	\$6,326,721,146	\$1,683,408,837	\$8,010,129,983

- The five-year smoothed market related actuarial value of assets used for the current valuation was \$9,282,130,042. Schedule B shows the development of the actuarial value of assets as of June 30, 2010. The following table shows the actuarial value of assets allocated among member groups.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	JUNE 30, 2010	JUNE 30, 2009
<b>Retirement</b>		
Non-Hazardous	\$ 5,546,857,291	\$ 5,650,789,991
Hazardous	<u>1,749,464,388</u>	<u>1,751,487,540</u>
Total	\$ 7,296,321,679	\$ 7,402,277,531
<b>Insurance</b>		
Non-Hazardous	\$ 1,293,038,593	\$ 1,216,631,769
Hazardous	<u>692,769,770</u>	<u>651,130,782</u>
Total	\$ 1,985,808,363	\$ 1,867,762,551
<b>CERS Total</b>		
Non-Hazardous	\$ 6,839,895,884	\$ 6,867,421,760
Hazardous	<u>2,442,234,158</u>	<u>2,402,618,322</u>
Total	\$ 9,282,130,042	\$ 9,270,040,082





## **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, 2010. 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 \$13,403,937,730, of which \$6,163,032,221 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$350,311,311 is for the prospective benefits payable on account of inactive members and \$6,890,594,198 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 \$7,296,321,679 as of June 30, 2010. The difference of \$6,107,616,051 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, \$1,265,557,423 is the present value of future contributions expected to be made by members, and the balance of \$4,842,058,628 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 4.08% of payroll for non-hazardous members and 7.05% of payroll for hazardous members are required to provide the benefits of the System for the average new member of CERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$1,007,206,120. When this amount is subtracted from \$4,842,058,628, which is the present value of the total future contributions to be made by the employers, there remains \$3,834,852,508 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 6.98% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the Counties on account of retirement benefits be set at 10.60% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$2,912,164,989 for non-hazardous members and \$922,687,519 for hazardous members over 27 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 0.64% 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 \$6,208,816,168, of which \$2,090,160,823 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$250,672,805 is for the prospective benefits payable on account of inactive members and \$3,867,982,540 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 \$1,985,808,363 as of June 30, 2010. The difference of \$4,223,007,805 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, \$22,402,531 is the present value of future contributions expected to be made by members, and the balance of \$4,200,605,274 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 4.92% of payroll for non-hazardous members and 12.34% of payroll for hazardous members are required to provide the benefits of the System for the average new member of CERS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$1,353,370,247. When this amount is subtracted from \$4,200,605,274, which is the present value of the total future contributions to be made by the employers, there remains \$2,847,235,027 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 4.47% of payroll. For hazardous members, it is recommended that the accrued liability contribution rate payable by the Counties on account of insurance benefits be set at 11.28% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$1,865,301,581 for non-hazardous members and \$981,933,446 for hazardous members over 27 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 0.12% 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, 2010 is shown below (\$ millions).

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

		Non-Hazardous Group		Hazardous Group		Total
(1)	UAAL* as of 6/30/09	\$ 2,262.1		\$ 827.0		\$ 3,089.1
(2)	Normal cost from last valuation	100.4		35.5		135.9
(3)	Employer contributions	207.1		82.9		290.0
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	175.1		63.6		238.7
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 2,330.5		\$ 843.2		\$ 3,173.7
(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)	\$ 2,330.5		\$ 843.2		\$ 3,173.7
(9)	Actual UAAL as of 6/30/10	\$ 2,912.2		\$ 922.7		\$ 3,834.9
(10)	Gain/(loss): (8) - (9)	\$ (581.7)		\$ (79.5)		\$ (661.2)
(11)	Accrued liabilities as of 6/30/09	\$ 7,912.9		\$ 2,578.4		\$ 10,491.3
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(7.4)%		(3.1)%		(6.3)%

\*Unfunded actuarial accrued liability.



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

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/09	\$ 1,853.8	\$ 942.4	\$ 2,796.2
(2)	Normal cost from last valuation	112.3	59.4	171.7
(3)	Expected employer contributions	<u>209.4</u>	<u>108.8</u>	<u>318.2</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .0775	136.1	69.2	205.3
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 1,892.8	\$ 962.2	\$ 2,855.0
(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)	Data correction**	(28.2)	20.1	(8.1)
(9)	Expected UAAL after changes: (5) + (6) + (7) + (8)	\$ 1,864.6	\$ 982.3	\$ 2,846.9
(10)	Actual UAAL as of 6/30/10	\$ 1,865.3	\$ 981.9	\$ 2,847.2
(11)	Gain/(loss): (9) - (10)	\$ (0.7)	\$ 0.4	\$ (0.3)
(12)	Accrued liabilities as of 6/30/09	\$ 3,070.4	\$ 1,593.5	\$ 4,663.9
(13)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(0.0)%	0.0 %	(0.0)%

\* *Unfunded actuarial accrued liability.*

\*\*\$28.2 million gain due to 301 CERS Non-Hazardous retirees with split service coded as covered for health insurance under other systems this year who were coded with coverage in CERS Non-Hazardous in prior years. Most of these 301 retirees are now coded with coverage in KERS Non-Hazardous. It was determined during conversion to the new data system that most of these retirees are covered for health insurance under other systems because the majority of their service was not CERS Non-Hazardous.

\$20.1 million loss due to 155 CERS Hazardous retirees with split service coded as covered for health insurance under CERS Hazardous this year who were coded without coverage in CERS Hazardous in prior years. Most of these 155 retirees were coded as covered for health insurance under KERS Non-Hazardous in prior years and are now coded without coverage in that system. It was determined during conversion to the new data system that these retirees are covered for health insurance under CERS Hazardous because the majority of their service was CERS Hazardous and not with the other systems.



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (91.3)	\$ (13.1)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(14.3)	6.1
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.5)	(2.5)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	21.0	10.5
<b>Pay or Claims Increases.</b> 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.	77.6	209.8
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(11.2)	(7.7)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(353.8)	(60.6)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	13.1	10.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(221.3)</u>	<u>(153.6)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (581.7)	\$ (0.7)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>28.2</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (581.7)	\$ 27.5



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (46.2)	\$ (8.4)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.3	0.5
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.1	3.9
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	19.4	17.1
<b>Pay or Claims Increases.</b> 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.	29.8	123.9
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(4.8)	(6.6)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(117.1)	(33.5)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	4.5	18.0
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>34.5</u>	<u>(114.5)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (79.5)	\$ 0.4
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>(20.1)</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (79.5)	\$ (19.7)



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (137.5)	\$ (21.5)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(14.0)	6.6
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.4)	1.4
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	40.4	27.6
<b>Pay or Claims Increases.</b> 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.	107.4	333.7
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(16.0)	(14.3)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(470.9)	(94.1)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	17.6	28.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(186.8)</u>	<u>(268.1)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (661.2)	\$ (0.3)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>8.1</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (661.2)	\$ 7.8



**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 2011/2012 fiscal year.

**Required Contribution Rates  
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 184,996,610	8.06%
(2) Disability benefits	14,918,037	0.66
(3) Survivor benefits	3,249,243	0.13
(4) Total	\$ 203,163,890	9.08%
B. Member Contributions	\$ 111,842,769	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 91,321,121	4.08%
D. Administrative Expenses	\$ 14,315,874	0.64%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/09 Valuation:	\$ 121,461,247	5.43%
(2) Change due to:		
a. Active decrements	\$ 4,617,931	0.21%
b. Pay increases	(4,159,640)	(0.19)
c. Retiree mortality	(700,322)	(0.03)
d. Investment return	18,969,895	0.85
e. COLA	2,962,763	0.13
f. Assumption Change	0	0.00
g. Other	12,975,150	0.58
h. Total Change	\$ 34,665,777	1.55%
(3) UAAL Contribution Based on 6/30/10 Valuation: [E(1) +E(2)h]	\$ 156,127,024	6.98%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 261,764,019	11.70%

\* Based on 28 year amortization of the UAAL from June 30, 2009 and 27 years from June 30, 2010





**Required Contribution Rates  
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 65,844,999	13.99%
(2) Disability benefits	3,447,118	0.74
(3) Survivor benefits	940,573	0.20
(4) Total	<u>\$ 70,232,690</u>	<u>15.05%</u>
B. Member Contributions	\$ 37,323,893	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 32,908,797	7.05%
D. Administrative Expenses	\$ 1,213,027	0.26%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/09 Valuation:	\$ 43,062,441	9.23%
(2) Change due to:		
a. Active decrements	\$ 1,410,662	0.30%
b. Pay increases	(1,599,989)	(0.34)
c. Retiree mortality	(241,608)	(0.05)
d. Investment return	6,277,180	1.35
e. COLA	1,104,488	0.24
f. Assumption Change	0	0.00
g. Other	(546,039)	(0.14)
h. Total Change	<u>\$ 6,404,693</u>	<u>1.37%</u>
(3) UAAL Contribution Based on 6/30/10 Valuation: [E(1) +E(2)h]	\$ 49,467,134	10.60%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	<u>\$ 83,588,958</u>	<u>17.91%</u>

\* Based on 28 year amortization of the UAAL from June 30, 2009 and 27 years from June 30, 2010



**Required Contribution Rates  
Non-Hazardous Insurance**

	<b>Contribution for</b>	<b>Amount</b>	<b>% of Payroll</b>
A.	Normal Cost:	\$ 111,962,540	5.01%
B.	Member Contributions*	\$ 2,013,170	0.09%
C.	Employer Normal Cost: [A - B]	\$ 109,949,370	4.92%
D.	Administrative Expenses	\$ 4,469,067	0.20%
E.	Unfunded Actuarial Accrued Liability**:	\$ 100,002,571	4.47%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 214,421,008	9.59%

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

*\*\* Based on 27 year amortization of the UAAL from June 30, 2010*

**Required Contribution Rates  
Hazardous Insurance**

	<b>Contribution for</b>	<b>Amount</b>	<b>% of Payroll</b>
A.	Normal Cost:	\$ 57,798,060	12.39%
B.	Member Contributions*	\$ 233,274	0.05%
C.	Employer Normal Cost: [A - B]	\$ 57,564,786	12.34%
D.	Administrative Expenses	\$ 554,363	0.12%
E.	Unfunded Actuarial Accrued Liability**:	\$ 52,643,428	11.28%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 110,762,577	23.74%

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

*\*\* Based on 27 year amortization of the UAAL from June 30, 2010*



**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, 2010**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	41,038	6,068	47,106
Terminated employees entitled to benefits but not yet receiving benefits	64,004	2,631	66,635
Active Members	<u>84,681</u>	<u>9,562</u>	<u>94,243</u>
Total	189,723	18,261	207,984

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))
<b>Non-Hazardous Members</b>						
6/30/2005	\$ 5,059,208,687	\$ 5,385,156,690	\$ 325,948,003	94.0%	\$ 1,885,275,000	17.3%
6/30/2006	5,162,894,136	6,179,569,267	1,016,675,131	83.6	1,982,437,473	51.3
6/30/2007	5,467,824,480	6,659,446,126	1,191,621,646	82.1	2,076,848,328	57.4
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
<b>Hazardous Members</b>						
6/30/2005	\$ 1,452,353,023	\$ 1,795,617,335	\$ 343,264,312	80.9%	\$ 411,121,728	83.5%
6/30/2006	1,515,075,017	2,020,142,770	505,067,753	75.0	426,927,550	118.3
6/30/2007	1,639,288,924	2,208,736,179	569,447,255	74.2	458,998,956	124.1
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
<b>Total CERS Members</b>						
6/30/2005	\$ 6,511,561,710	\$ 7,180,774,025	\$ 669,212,315	90.7%	\$ 2,296,396,728	29.1%
6/30/2006	6,677,969,153	8,199,712,037	1,521,742,884	81.4	2,409,365,023	63.2
6/30/2007	7,107,113,404	8,868,182,305	1,761,068,901	80.1	2,535,847,284	69.4
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



**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))
<b>Non-Hazardous Members</b>						
6/30/2005	\$ 663,941,949	\$ 2,788,754,654	\$ 2,124,812,705	23.8%	\$ 1,885,275,000	112.7%
6/30/2006	777,726,590	4,607,223,639	3,829,497,049	16.9	1,982,437,473	193.2
6/30/2007	960,285,900	3,333,966,070	2,373,680,170	28.8	2,076,848,328	114.3
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
<b>Hazardous Members</b>						
6/30/2005	\$ 359,180,461	\$ 1,283,299,092	\$ 924,118,631	28.0%	\$ 411,121,728	224.8%
6/30/2006	422,785,042	1,928,481,371	1,505,696,329	21.9	426,927,550	352.7
6/30/2007	512,926,549	1,646,460,011	1,133,533,462	31.2	458,998,956	247.0
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
<b>Total CERS Members</b>						
6/30/2005	\$ 1,023,122,410	\$ 4,072,053,746	\$ 3,048,931,336	25.1%	\$ 2,296,396,728	132.8%
6/30/2006	1,200,511,632	6,535,705,010	5,335,193,378	18.4	2,409,365,023	221.4
6/30/2007	1,473,212,449	4,980,426,081	3,507,213,632	29.6	2,535,847,284	138.3
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2010. Additional information as of the latest actuarial valuation follows.

### Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2010	6/30/2010
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	27 years	27 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	6/30/2010	6/30/2010
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	27 years	27 years
Asset valuation method	5 year smoothed Market	5 year smoothed Market
Medical Trend Assumption (Pre-Medicare)	10.5% - 5.0%	10.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	9.0% - 5.0%	9.0% - 5.0%
Year Ultimate Trend	2018	2018
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, 2010 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2009. 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, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 5,546,857,291	\$ 5,650,789,991
Prospective contributions		
Member contributions	\$ 938,666,730	\$ 922,791,578
Employer normal contributions	723,714,570	693,386,420
Unfunded accrued liability contributions	<u>2,912,164,989</u>	<u>2,262,123,521</u>
Total prospective contributions	<u>\$ 4,574,546,289</u>	<u>\$ 3,878,301,519</u>
Total assets	<u>\$ 10,121,403,580</u>	<u>\$ 9,529,091,510</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 4,568,443,463	\$ 4,265,165,380
Present value of benefits payable on account of active members	5,230,744,503	4,986,608,408
Present value of benefits payable on account of inactive members	<u>322,215,614</u>	<u>277,317,722</u>
Total liabilities	<u>\$ 10,121,403,580</u>	<u>\$ 9,529,091,510</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,749,464,388	\$ 1,751,487,540
Prospective contributions		
Member contributions	\$ 326,890,693	\$ 329,864,351
Employer normal contributions	283,491,550	297,584,040
Unfunded accrued liability contributions	<u>922,687,519</u>	<u>826,957,060</u>
Total prospective contributions	<u>\$ 1,533,069,762</u>	<u>\$ 1,454,405,451</u>
 Total assets	 <u>\$ 3,282,534,150</u>	 <u>\$ 3,205,892,991</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,594,588,758	\$ 1,514,649,769
 Present value of benefits payable on account of active members	 1,659,849,695	 1,665,630,404
 Present value of benefits payable on account of inactive members	 <u>28,095,697</u>	 <u>25,612,818</u>
 Total liabilities	 <u>\$ 3,282,534,150</u>	 <u>\$ 3,205,892,991</u>





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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 7,296,321,679	\$ 7,402,277,531
Prospective contributions		
Member contributions	\$ 1,265,557,423	\$ 1,252,655,929
Employer normal contributions	1,007,206,120	990,970,460
Unfunded accrued liability contributions	<u>3,834,852,508</u>	<u>3,089,080,581</u>
Total prospective contributions	<u>\$ 6,107,616,051</u>	<u>\$ 5,332,706,970</u>
Total assets	<u>\$ 13,403,937,730</u>	<u>\$ 12,734,984,501</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 6,163,032,221	\$ 5,779,815,149
Present value of benefits payable on account of active members	6,890,594,198	6,652,238,812
Present value of benefits payable on account of inactive members	<u>350,311,311</u>	<u>302,930,540</u>
Total liabilities	<u>\$ 13,403,937,730</u>	<u>\$ 12,734,984,501</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,293,038,593	\$ 1,216,631,769
Prospective contributions		
Member contributions	\$ 19,092,218	\$ 7,431,458
Employer normal contributions	891,691,710	934,328,870
Unfunded accrued liability contributions	<u>1,865,301,581</u>	<u>1,853,754,249</u>
Total prospective contributions	<u>\$ 2,776,085,509</u>	<u>\$ 2,795,514,577</u>
 Total assets	 <u>\$ 4,069,124,102</u>	 <u>\$ 4,012,146,346</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,304,212,597	\$ 1,269,509,766
 Present value of benefits payable on account of active members	 2,542,590,730	 2,533,363,593
 Present value of benefits payable on account of inactive members	 <u>222,320,775</u>	 <u>209,272,987</u>
 Total liabilities	 <u>\$ 4,069,124,102</u>	 <u>\$ 4,012,146,346</u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 692,769,770	\$ 651,130,782
Prospective contributions		
Member contributions	\$ 3,310,313	\$ 1,595,121
Employer normal contributions	461,678,537	490,958,014
Unfunded accrued liability contributions	<u>981,933,446</u>	<u>942,417,481</u>
Total prospective contributions	<u>\$ 1,446,922,296</u>	<u>\$ 1,434,970,616</u>
Total assets	<u><u>\$ 2,139,692,066</u></u>	<u><u>\$ 2,086,101,398</u></u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 785,948,226	\$ 698,154,220
Present value of benefits payable on account of active members	1,325,391,810	1,360,201,562
Present value of benefits payable on account of inactive members	<u>28,352,030</u>	<u>27,745,616</u>
Total liabilities	<u><u>\$ 2,139,692,066</u></u>	<u><u>\$ 2,086,101,398</u></u>



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

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,985,808,363	\$ 1,867,762,551
Prospective contributions		
Member contributions	\$ 22,402,531	\$ 9,026,579
Employer normal contributions	1,353,370,247	1,425,286,884
Unfunded accrued liability contributions	<u>2,847,235,027</u>	<u>2,796,171,730</u>
Total prospective contributions	<u>\$ 4,223,007,805</u>	<u>\$ 4,230,485,193</u>
Total assets	<u>\$ 6,208,816,168</u>	<u>\$ 6,098,247,744</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,090,160,823	\$ 1,967,663,986
Present value of benefits payable on account of active members	3,867,982,540	3,893,565,155
Present value of benefits payable on account of inactive members	<u>250,672,805</u>	<u>237,018,603</u>
Total liabilities	<u>\$ 6,208,816,168</u>	<u>\$ 6,098,247,744</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)				
6/30/2005*	\$ 837,513,907	\$ 2,814,210,355	\$ 1,733,432,428	\$ 5,059,208,687	100.0%	100.0%	81.2%
6/30/2006	883,946,564	3,210,095,023	2,085,527,680	5,162,894,136	100.0	100.0	51.3
6/30/2007	920,126,096	3,589,512,063	2,149,807,967	5,467,824,480	100.0	100.0	44.6
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

\*Reported by prior actuarial firm.

**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)				
6/30/2005*	\$ 264,913,465	\$ 960,052,305	\$ 570,651,565	\$ 1,452,353,023	100.0%	100.0%	39.8%
6/30/2006	300,200,800	1,128,164,618	591,777,352	1,515,075,017	100.0	100.0	14.7
6/30/2007	317,007,367	1,275,221,775	616,507,037	1,639,288,924	100.0	100.0	7.6
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

\*Reported by prior actuarial firm.



**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)				
6/30/2005*	\$ 0	\$ 1,144,219,107	\$ 1,644,535,547	\$ 663,941,949	100.0%	58.0%	0.0%
6/30/2006	0	1,694,600,143	2,912,623,496	777,726,590	100.0	45.9	0.0
6/30/2007	0	1,372,128,406	1,961,837,664	960,285,900	100.0	70.0	0.0
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

*\*Reported by prior actuarial firm.*

**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)				
6/30/2005*	\$ 0	\$ 586,104,126	\$ 697,194,966	\$ 359,180,461	100.0%	61.3%	0.0%
6/30/2006	0	787,671,273	1,140,810,098	422,785,042	100.0	53.7	0.0
6/30/2007	0	659,752,978	986,707,033	512,926,549	100.0	77.7	0.0
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

*\*Reported by prior actuarial firm.*



**SCHEDULE B**

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

Valuation date June 30:		2009	2010	2011	2012	2013	2014
A.	Actuarial Value Beginning of Year	\$ 5,731,502,438	\$ 5,650,789,991				
B.	Market Value End of Year	4,330,593,934	4,819,933,717				
C.	Market Value Beginning of Year	5,431,735,605	4,330,593,934				
D.	Cash Flow						
	D1. Contributions	301,802,344	313,633,777				
	D2. Benefit Payments	(462,022,378)	(480,248,345)				
	D3. Administrative Expenses	(13,832,849)	(14,323,240)				
	D4. Investment Expenses	<u>(5,616,856)</u>	<u>(16,016,532)</u>				
	D5. Net	(179,669,739)	(196,954,340)				
E.	Investment Income						
	E1. Market Total: B.-C.-D5.	(921,471,932)	686,294,123				
	E2. Assumed Rate	7.75%	7.75%				
	E3. Amount for Immediate Recognition	419,831,816	344,626,222				
	E4. Amount for Phased-In Recognition	(1,341,303,748)	341,667,901				
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.20*E4.	(268,260,750)	68,333,580	0	0	0	0
	F2. First Prior Year	(134,517,035)	(268,260,750)	68,333,580	0	0	0
	F3. Second Prior Year	73,558,421	(134,517,035)	(268,260,750)	68,333,580	0	0
	F4. Third Prior Year	9,281,202	73,558,421	(134,517,035)	(268,260,750)	68,333,580	0
	F5. Fourth Prior Year	<u>(936,362)</u>	<u>9,281,202</u>	<u>73,558,421</u>	<u>(134,517,035)</u>	<u>(268,260,750)</u>	<u>68,333,580</u>
	F6. Total Recognized Investment Gain	(320,874,524)	(251,604,582)	(260,885,784)	(334,444,205)	(199,927,170)	68,333,580
G.	Actuarial Value End of Year:						
	A.+D5.+E3.+F6.	\$ 5,650,789,991	\$ 5,546,857,291				
H.	Difference Between Market & Actuarial Values	\$ (1,320,196,057)	\$ (726,923,574)	\$ (466,037,790)	\$ (131,593,585)	\$ 68,333,580	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 1,750,867,373	\$ 1,751,487,540				
B. Market Value End of Year	1,320,522,868	1,506,787,429				
C. Market Value Beginning of Year	1,644,983,243	1,320,522,868				
D. Cash Flow						
D1. Contributions	120,733,655	120,086,876				
D2. Benefit Payments	(141,246,089)	(138,766,191)				
D3. Administrative Expenses	(1,198,503)	(1,234,194)				
D4. Investment Expenses	<u>(1,540,413)</u>	<u>(4,216,663)</u>				
D5. Net	(23,251,350)	(24,130,172)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(301,209,025)	210,394,733				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	128,185,316	105,785,537				
E4. Amount for Phased-In Recognition	(429,394,341)	104,609,196				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(85,878,868)	20,921,839	0	0	0	0
F2. First Prior Year	(46,582,469)	(85,878,868)	20,921,839	0	0	0
F3. Second Prior Year	24,437,228	(46,582,469)	(85,878,868)	20,921,839	0	0
F4. Third Prior Year	3,423,753	24,437,228	(46,582,469)	(85,878,868)	20,921,839	0
F5. Fourth Prior Year	<u>286,557</u>	<u>3,423,753</u>	<u>24,437,228</u>	<u>(46,582,469)</u>	<u>(85,878,868)</u>	<u>20,921,839</u>
F6. Total Recognized Investment Gain	(104,313,799)	(83,678,517)	(87,102,270)	(111,539,498)	(64,957,029)	20,921,839
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,751,487,540	\$ 1,749,464,388				
H. Difference Between Market & Actuarial Values	\$ (430,964,672)	\$ (242,676,959)	\$ (155,574,689)	\$ (44,035,191)	\$ 20,921,839	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 1,168,883,170	\$ 1,216,631,769				
B. Market Value End of Year	894,905,841	1,096,581,872				
C. Market Value Beginning of Year	1,105,944,178	894,905,841				
D. Cash Flow						
D1. Contributions	146,156,476	192,750,255				
D2. Benefit Payments	(108,995,559)	(123,132,978)				
D3. Administrative Expenses	(4,050,960)	(4,469,067)				
D4. Investment Expenses	<u>(554,766)</u>	<u>(2,390,751)</u>				
D5. Net	32,555,191	62,757,459				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(243,593,528)	138,918,572				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	87,548,451	74,270,447				
E4. Amount for Phased-In Recognition	(331,141,979)	64,648,125				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(66,228,396)	12,929,625	0	0	0	0
F2. First Prior Year	(36,900,933)	(66,228,396)	12,929,625	0	0	0
F3. Second Prior Year	24,311,839	(36,900,933)	(66,228,396)	12,929,625	0	0
F4. Third Prior Year	5,266,783	24,311,839	(36,900,933)	(66,228,396)	12,929,625	0
F5. Fourth Prior Year	<u>1,195,664</u>	<u>5,266,783</u>	<u>24,311,836</u>	<u>(36,900,933)</u>	<u>(66,228,396)</u>	<u>12,929,625</u>
F6. Total Recognized Investment Gain	(72,355,043)	(60,621,082)	(65,887,868)	(90,199,704)	(53,298,771)	12,929,625
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,216,631,769	\$ 1,293,038,593				
H. Difference Between Market & Actuarial Values	\$ (321,725,928)	\$ (196,456,721)	\$ (130,568,853)	\$ (40,369,149)	\$ 12,929,625	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 613,526,319	\$ 651,130,782				
B. Market Value End of Year	483,269,862	586,826,965				
C. Market Value Beginning of Year	576,414,457	483,269,862				
D. Cash Flow						
D1. Contributions	71,778,158	85,144,950				
D2. Benefit Payments	(41,016,544)	(48,320,681)				
D3. Administrative Expenses	(445,277)	(554,363)				
D4. Investment Expenses	<u>(278,278)</u>	<u>(1,089,127)</u>				
D5. Net	30,038,059	35,180,779				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(123,182,654)	68,376,324				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	46,125,156	39,948,000				
E4. Amount for Phased-In Recognition	(169,307,810)	28,428,324				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(33,861,562)	5,685,665	0	0	0	0
F2. First Prior Year	(18,967,697)	(33,861,562)	5,685,665	0	0	0
F3. Second Prior Year	10,834,617	(18,967,697)	(33,861,562)	5,685,665	0	0
F4. Third Prior Year	2,819,186	10,834,617	(18,967,697)	(33,861,562)	5,685,665	0
F5. Fourth Prior Year	<u>616,704</u>	<u>2,819,186</u>	<u>10,834,617</u>	<u>(18,967,697)</u>	<u>(33,861,562)</u>	<u>5,685,665</u>
F6. Total Recognized Investment Gain	(38,558,752)	(33,489,791)	(36,308,977)	(47,143,594)	(28,175,897)	5,685,665
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 651,130,782	\$ 692,769,770				
H. Difference Between Market & Actuarial Values	\$ (167,860,920)	\$ (105,942,805)	\$ (69,633,828)	\$ (22,490,234)	\$ 5,685,665	\$ 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 <sup>+</sup>	Rate <sup>++</sup>
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.



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

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2011	10.5%	9.0%
2012	9.5%	8.5%
2013	8.5%	7.5%
2014	7.5%	7.0%
2015	6.5%	6.5%
2016	6.0%	6.0%
2017	5.5%	5.5%
2018 and beyond	5.0%	5.0%

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

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

Medical	Non-Hazardous	Hazardous
Participation	85%	100%



Following are charts detailing expected premiums for pre- and post-Medicare for the year following the valuation date.

**MEDICAL INSURANCE CONTRIBUTION RATES  
PRE-MEDICARE ELIGIBLE**

2010					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56	
Optimum PPO	\$ 616.28	\$ 889.54	\$ 1,363.40	\$ 1,515.36	
Capitol Choice	\$ 594.14	\$ 896.06	\$ 1,347.50	\$ 1,490.60	

2011					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56	
Optimum PPO	\$ 650.30	\$ 905.42	\$ 1,405.66	\$ 1,565.88	
Capitol Choice	\$ 625.68	\$ 909.02	\$ 1,387.36	\$ 1,537.92	

**MEDICARE ELIGIBLE**

Effective January 1, 2011	Self-Supporting	Funding rates
	(Used for OPEB claims cost)	(Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 163.61	\$ 163.00
Kentucky Retirement System Health Plan - Essential	\$ 182.03	\$ 163.00
Kentucky Retirement System Health Plan - Premium	\$ 375.11	\$ 355.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted. In addition, the claims costs for the Essential and Premium plans are adjusted to reflect the front end CMS reimbursement of \$54.71 per member per month due to the EGWP.



**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.

**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 shown above. 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.

**ASSETS:** 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.



## 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 5.0% per year for the first five years and 4.0% 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 5.0% per year for the first five years and 4.0% 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.

*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.
<i>Amount</i>	Normal retirement benefit deferred to normal retirement age or reduced benefit payable at early retirement age.
<i>Normal Retirement Age</i>	65 for non-hazardous members and 60 for hazardous members.

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

<i>Requirement</i>	Eligible for Normal or Early Retirement, or any age with 60 months service.
<i>Amount</i>	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) – Hazardous Plan:**

<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



**Non-Hazardous Member Contributions:**

*Members whose participation began before 9/1/2008*

5% of all creditable compensation. Interest paid on the members' accounts will be set at 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 will be set at 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 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*
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 benefit.*

For Medicare-eligible retirees, the percentage paid by the Insurance Fund is applied to the funding rate premiums rather than the self-supporting amounts.

*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 \$12.32 per month for each year of earned service for retirees. This amount is shown as of the valuation date and is indexed annually based on the CPI prior to July 1, 2008 and by 1.5% thereafter.

*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 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*
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 benefit.*

For Medicare-eligible retirees, the percentage paid by the Insurance Fund is applied to the funding rate premiums rather than the self-supporting amounts.

*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 \$18.48 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.32 per month for each year of earned. These amounts are shown as of the valuation date and are indexed annually based on the CPI prior to July 1, 2008 and by 1.5% thereafter.

*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**

<b>Year Ending June 30</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
			<b><u>Number</u></b>			
Beginning of Year	29,129	31,347	33,102	35,564	37,579	39,756
Added	2,808	2,782	3,244	3,366	3,060	2,565
Removed	590	1,027	782	1,351	883	1,283
End of Year	31,347	33,102	35,564	37,579	39,756	41,038
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 247,534,300	\$ 279,590,300	\$ 308,269,651	\$ 348,712,020	\$ 393,757,510	\$ 440,061,418
Added	\$ 30,397,300	\$ 34,559,599	44,888,509	56,376,123	51,679,136	21,063,111
Removed	3,161,200	5,880,248	4,446,140	11,330,633	5,375,228	8,510,979
End of Year	\$ 279,590,300	\$ 308,269,651	\$ 348,712,020	\$ 393,757,510	\$ 440,061,418	\$ 452,613,550
% Increase in Allowances	12.59%	10.26%	13.12%	12.92%	11.76%	2.85%
Average Annual Allowance	\$ 8,919	\$ 9,313	\$ 9,805	\$ 10,478	\$ 11,069	\$ 11,029

*\*Reported by prior actuarial firm.*



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

<b>Year Ending June 30</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
	<b><u>Number</u></b>					
Beginning of Year	4,005	4,361	4,712	5,159	5,422	5,808
Added	403	427	500	469	650	423
Removed	47	76	53	206	264	163
End of Year	4,361	4,712	5,159	5,422	5,808	6,068
	<b><u>Annual Allowances</u></b>					
Beginning of Year	\$ 79,559,200	\$ 89,224,700	\$ 100,290,052	\$ 113,735,850	\$ 127,477,109	\$ 139,886,751
Added	8,536,100	\$ 11,876,922	14,207,939	16,794,618	13,030,426	8,566,698
Removed	502,700	811,570	762,141	3,053,359	620,784	1,536,637
End of Year	\$ 89,224,700	\$ 100,290,052	\$ 113,735,850	\$ 127,477,109	\$ 139,886,751	\$ 146,916,812
% Increase in Allowances	12.15%	12.40%	13.41%	12.08%	9.73%	5.03%
Average Annual Allowance	\$ 20,460	\$ 21,284	\$ 22,046	\$ 23,511	\$ 24,085	\$ 24,212

*\*Reported by prior actuarial firm.*



**Non-Hazardous  
Retired Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	3,514	\$ 3,475,562.16	12,204	\$ 8,415,365.84	15,718	\$ 11,890,928.00
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	2,005	2,205,011.85	903	558,874.77	2,908	2,763,886.62
66-2/3% to Beneficiary	600	1,055,260.04	342	389,074.87	942	1,444,334.91
50% to Beneficiary	894	1,343,066.08	986	1,109,178.53	1,880	2,452,244.61
Pop-up Option	3,076	4,788,868.70	2,379	2,510,483.27	5,455	7,299,351.97
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	1,156	1,052,793.99	2,547	1,791,787.95	3,703	2,844,581.94
Social Security Option						
Age 62 Basic	232	528,383.96	456	520,314.02	688	1,048,697.98
Age 62 Survivorship	548	1,224,266.03	287	392,137.11	835	1,616,403.14
Parital 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	532	500,442.22	560	423,173.35	1,092	923,615.57
20 Years Certain & Life	373	491,288.28	494	394,808.17	867	886,096.45
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	130	136,634.32	418	334,914.05	548	471,548.37
PLSO 24 Month Basic	73	48,828.54	271	201,328.08	344	250,156.62
PLSO 36 Month Basic	319	152,667.98	776	347,769.65	1,095	500,437.63
PLSO 12 Month Survivor	171	202,323.33	102	97,113.62	273	299,436.95
PLSO 24 Month Survivor	112	111,188.75	73	48,988.35	185	160,177.10
PLSO 36 Month Survivor	472	278,174.89	306	134,722.81	778	412,897.70
<b>Total</b>	<b>14,207</b>	<b>\$ 17,594,761.12</b>	<b>23,104</b>	<b>\$ 17,670,034.44</b>	<b>37,311</b>	<b>\$ 35,264,795.56</b>



### Hazardous Retired Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	673	\$ 1,311,950.33	211	\$ 320,430.06	884	\$ 1,632,380.39
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	525	1,024,723.09	23	22,756.66	548	1,047,479.75
66-2/3% to Beneficiary	211	528,152.11	5	14,022.10	216	542,174.21
50% to Beneficiary	358	821,389.98	20	32,247.32	378	853,637.30
Pop-up Option	2,037	4,989,122.72	81	155,476.99	2,118	5,144,599.71
10 Years Certain	30	36,168.13	3	3,744.78	33	39,912.91
10 Years Certain & Life	171	341,152.21	38	69,417.10	209	410,569.31
Social Security Option						
Age 62 Basic	93	197,725.98	9	19,431.50	102	217,157.48
Age 62 Survivorship	286	577,498.73	10	18,263.20	296	595,761.93
Parital 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	62	101,324.94	8	6,924.68	70	108,249.62
20 Years Certain & Life	113	211,436.07	12	12,262.04	125	223,698.11
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	28	50,451.44	10	11,993.02	38	62,444.46
PLSO 24 Month Basic	25	54,051.61	7	6,715.38	32	60,766.99
PLSO 36 Month Basic	56	85,077.84	22	23,622.62	78	108,700.46
PLSO 12 Month Survivor	60	139,778.58	4	7,843.16	64	147,621.74
PLSO 24 Month Survivor	71	111,428.17	4	3,992.07	75	115,420.24
PLSO 36 Month Survivor	152	217,615.81	8	9,757.53	160	227,373.34
<b>Total</b>	<b>4,951</b>	<b>\$ 10,799,047.74</b>	<b>475</b>	<b>\$ 738,900.21</b>	<b>5,426</b>	<b>\$ 11,537,947.95</b>



**Non-Hazardous  
Beneficiary Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	7	\$ 2,209.45	8	\$ 4,782.94	15	\$ 6,992.39
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	284	136,858.22	1,394	801,666.20	1,678	938,524.42
66-2/3% to Beneficiary	0	0.00	2	1,509.93	2	1,509.93
50% to Beneficiary	77	26,638.88	285	132,449.26	362	159,088.14
Pop-up Option	107	69,692.10	405	338,338.01	512	408,030.11
10 Years Certain	75	47,775.51	129	104,697.20	204	152,472.71
10 Years Certain & Life	33	14,350.72	188	118,112.68	221	132,463.40
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	17	18,441.11	101	158,539.17	118	176,980.28
Parital Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	2	260.76	2	260.76
Dependent Child	48	34,112.28	64	63,522.11	112	97,634.39
Refund	1	515.42	7	3,933.48	8	4,448.90
15 Years Certain & Life	27	21,322.30	66	50,304.84	93	71,627.14
20 Years Certain & Life	38	27,756.09	61	59,823.95	99	87,580.04
5 Years Certain	89	57,887.61	88	75,686.45	177	133,574.06
PLSO 12 Month Basic	0	0.00	1	383.89	1	383.89
PLSO 24 Month Basic	0	0.00	0	0.00	0	0.00
PLSO 36 Month Basic	1	144.70	1	185.55	2	330.25
PLSO 12 Month Survivor	6	1,769.20	20	25,788.71	26	27,557.91
PLSO 24 Month Survivor	2	2,921.76	12	9,795.51	14	12,717.27
PLSO 36 Month Survivor	25	13,160.49	56	27,663.78	81	40,824.27
<b>Total</b>	<b>837</b>	<b>\$ 475,555.84</b>	<b>2,890</b>	<b>\$ 1,977,444.42</b>	<b>3,727</b>	<b>\$ 2,453,000.26</b>



### Hazardous Beneficiary Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	15	\$ 9,690.72	17	\$ 14,145.62	32	\$ 23,836.34
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	21	7,701.23	155	185,094.00	176	192,795.23
66-2/3% to Beneficiary	3	904.05	33	45,572.40	36	46,476.45
50% to Beneficiary	4	1,648.50	44	39,566.24	48	41,214.74
Pop-up Option	28	11,436.39	129	180,401.85	157	191,838.24
10 Years Certain	6	11,020.25	12	11,077.10	18	22,097.35
10 Years Certain & Life	6	4,041.80	1	88.35	7	4,130.15
Social Security Option						
Age 62 Basic	0	0.00	2	494.79	2	494.79
Age 62 Survivorship	70	115,335.22	1	2,805.57	71	118,140.79
Parital Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	3	3,190.64	3	3,190.64
Dependent Child	0	0.00	0	0.00	0	0.00
Refund	3	783.55	13	6,959.75	16	7,743.30
15 Years Certain & Life	4	1,299.70	4	3,954.22	8	5,253.92
20 Years Certain & Life	4	1,475.59	13	7,774.36	17	9,249.95
5 Years Certain	3	2,720.85	7	9,667.10	10	12,387.95
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	2	549.95	2	394.39	4	944.34
PLSO 12 Month Survivor	1	403.27	3	2,018.70	4	2,421.97
PLSO 24 Month Survivor	1	356.35	4	2,139.50	5	2,495.85
PLSO 36 Month Survivor	8	3,319.62	20	17,088.18	28	20,407.80
<b>Total</b>	<b>179</b>	<b>\$ 172,687.04</b>	<b>463</b>	<b>\$ 532,432.76</b>	<b>642</b>	<b>\$ 705,119.80</b>



Non-Hazardous Members

Retired and Beneficiary Information June 30, 2010  
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	45	\$ 981,700	57	\$ 806,299	101	\$ 814,511	203	\$ 2,602,509
45-49	450	\$ 10,484,945	118	\$ 1,454,796	64	\$ 509,758	632	\$ 12,449,499
50-54	1,651	\$ 40,804,141	278	\$ 3,831,457	133	\$ 1,404,647	2,062	\$ 46,040,245
55-59	3,700	\$ 68,612,166	462	\$ 5,430,523	233	\$ 2,528,368	4,395	\$ 76,571,057
60-64	6,278	\$ 83,431,693	701	\$ 7,711,113	378	\$ 4,378,832	7,357	\$ 95,521,638
65-69	7,115	\$ 71,288,569	642	\$ 6,253,293	457	\$ 4,314,463	8,214	\$ 81,856,326
70-74	6,159	\$ 54,406,169	490	\$ 4,383,577	483	\$ 4,432,544	7,132	\$ 63,222,291
75-79	4,300	\$ 33,139,169	226	\$ 1,748,201	497	\$ 3,881,034	5,023	\$ 38,768,404
80-84	2,648	\$ 17,841,741	51	\$ 360,802	495	\$ 3,243,862	3,194	\$ 21,446,405
85-89	1,358	\$ 7,565,093	17	\$ 56,597	430	\$ 2,079,920	1,805	\$ 9,701,611
90 & Over	559	\$ 2,551,780	6	\$ 33,721	456	\$ 1,848,063	1,021	\$ 4,433,565
Totals	34,263	\$ 391,107,167	3,048	\$ 32,070,380	3,727	\$ 29,436,003	41,038	\$ 452,613,550



**Hazardous Members**

**Retired and Beneficiary Information June 30, 2010  
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	121	\$ 3,672,058	64	\$ 1,055,237	168	\$ 886,408	353	\$ 5,613,702
45-49	528	\$ 16,220,465	64	\$ 1,097,099	20	\$ 180,753	612	\$ 17,498,317
50-54	727	\$ 21,494,282	84	\$ 1,374,008	36	\$ 514,950	847	\$ 23,383,240
55-59	1,152	\$ 34,354,908	106	\$ 1,515,600	59	\$ 1,025,394	1,317	\$ 36,895,902
60-64	1,132	\$ 28,287,462	52	\$ 868,556	83	\$ 1,336,573	1,267	\$ 30,492,592
65-69	692	\$ 14,648,594	27	\$ 353,476	78	\$ 1,550,955	797	\$ 16,553,025
70-74	390	\$ 7,669,969	6	\$ 105,693	82	\$ 1,469,158	478	\$ 9,244,821
75-79	179	\$ 3,816,245	7	\$ 64,817	57	\$ 808,268	243	\$ 4,689,331
80-84	78	\$ 1,553,038	2	\$ 16,838	39	\$ 498,216	119	\$ 2,068,092
85-89	13	\$ 266,988	1	\$ 19,335	17	\$ 166,811	31	\$ 453,135
90 & Over	1	\$ 707			3	\$ 23,950	4	\$ 24,657
Totals	5,013	\$ 131,984,715	413	\$ 6,470,660	642	\$ 8,461,437	6,068	\$ 146,916,813





**Total Non-Hazardous Active Members as of June 30, 2010  
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	46								46
Avg Pay	\$13,138								\$13,138
20-24	2,777	309							3,086
Avg Pay	\$19,799	\$25,638							\$20,384
25-29	3,406	1,259	80						4,745
Avg Pay	\$22,969	\$27,033	\$27,693						\$24,127
30-34	3,501	1,762	728	22					6,013
Avg Pay	\$22,414	\$30,114	\$33,530	\$35,811					\$26,065
35-39	6,236	2,366	1,460	384	16				10,462
Avg Pay	\$19,544	\$27,929	\$35,519	\$38,530	\$53,836				\$24,419
40-44	4,089	3,051	2,235	890	343	58			10,666
Avg Pay	\$21,519	\$25,454	\$30,862	\$38,667	\$45,627	\$55,357			\$26,993
44-49	3,590	3,508	3,259	1,451	846	229	141	31	13,055
Avg Pay	\$21,777	\$25,201	\$27,327	\$34,088	\$42,830	\$50,953	\$49,528	\$50,769	\$27,695
50-54	3,083	2,995	3,288	2,302	1,123	256	184	114	13,345
Avg Pay	\$22,156	\$26,372	\$26,721	\$30,351	\$37,964	\$45,811	\$48,005	\$59,484	\$28,100
55-59	2,476	2,378	2,489	2,228	1,315	255	219	135	11,495
Avg Pay	\$22,628	\$26,768	\$27,679	\$28,929	\$33,738	\$41,168	\$40,951	\$56,306	\$28,226
60-64	1,557	1,708	1,571	1,362	889	194	150	88	7,519
Avg Pay	\$20,279	\$25,107	\$27,282	\$28,946	\$32,367	\$35,467	\$36,160	\$57,078	\$26,977
65-69	649	761	596	404	224	51	48	51	2,784
Avg Pay	\$16,268	\$21,188	\$23,106	\$26,516	\$29,573	\$35,787	\$34,918	\$37,803	\$22,708
70 & over	299	394	333	208	146	24	27	34	1,465
Avg Pay	\$16,783	\$19,699	\$21,537	\$21,572	\$30,615	\$23,946	\$29,307	\$41,089	\$21,618
<b>Totals</b>	<b>31,709</b>	<b>20,491</b>	<b>16,039</b>	<b>9,251</b>	<b>4,902</b>	<b>1,067</b>	<b>769</b>	<b>453</b>	<b>84,681</b>
<b>Avg Pay</b>	<b>\$21,187</b>	<b>\$26,186</b>	<b>\$28,498</b>	<b>\$31,176</b>	<b>\$36,641</b>	<b>\$43,472</b>	<b>\$42,492</b>	<b>\$53,651</b>	<b>\$26,415</b>



**Total Hazardous Active Members as of June 30, 2010  
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	328 \$35,057	19 \$37,794							347 \$35,207
25-29 Avg Pay	981 \$39,683	257 \$45,859	7 \$53,301						1,245 \$41,034
30-34 Avg Pay	627 \$39,935	774 \$47,699	227 \$53,958						1,628 \$45,581
35-39 Avg Pay	505 \$36,961	669 \$47,520	781 \$55,247	178 \$60,258	5 \$69,943				2,138 \$48,961
40-44 Avg Pay	246 \$39,991	389 \$46,924	488 \$52,849	515 \$60,274	160 \$67,097	12 \$69,325			1,810 \$53,309
44-49 Avg Pay	141 \$38,379	231 \$45,668	258 \$51,761	315 \$58,598	222 \$67,703	40 \$71,292	10 \$71,566	1 \$61,536	1,218 \$54,542
50-54 Avg Pay	73 \$41,567	117 \$45,690	127 \$48,046	139 \$55,046	115 \$65,076	24 \$73,391	15 \$85,011	8 \$53,195	618 \$53,526
55-59 Avg Pay	56 \$38,017	99 \$41,592	66 \$59,933	73 \$56,087	36 \$62,348	3 \$80,004	5 \$83,258	17 \$83,484	355 \$52,441
60-64 Avg Pay	32 \$40,691	47 \$49,673	36 \$47,754	14 \$54,609	10 \$64,538	1 \$61,404		4 \$72,900	144 \$49,436
65-69 Avg Pay	2 \$28,374	17 \$38,612	11 \$47,463	6 \$54,458					36 \$43,389
70 & over Avg Pay	5 \$31,644	10 \$40,007	6 \$54,456			1 \$102,420	1 \$72,096		23 \$46,067
Totals Avg Pay	2,996 \$38,739	2,629 \$46,737	2,007 \$53,582	1,240 \$58,921	548 \$66,586	81 \$72,207	31 \$79,975	30 \$73,264	9,562 \$48,792



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

**Prepared as of June 30, 2010**



# Cavanaugh Macdonald

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November 10, 2010

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 year beginning July 1, 2011. The date of the valuation was June 30, 2010.

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.

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 meets 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,

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Chief Executive Officer

TJC:kc

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## TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	4
IV	Comments on Valuation	5
V	Derivation of Experience Gains and Losses	7
VI	Required Contribution Rates	10
VII	Accounting Information	12
<u>Schedule</u>		
A	Valuation Balance Sheet and Solvency Test	15
B	Development of Actuarial Value of Assets	18
C	Statement of Actuarial Assumptions and Methods	20
D	Summary of Main Benefit and Contribution Provisions	24
E	Detailed Tabulations of the Data	29



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

**PREPARED AS OF JUNE 30, 2010**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2010, 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.

**SUMMARY OF PRINCIPAL RESULTS**

	<b>6/30/2010</b>	<b>6/30/2009</b>
<b>Contributions for next fiscal year:</b>		
Retirement	39.80%	35.74%
Insurance	<u>54.83</u>	<u>49.89</u>
Total	94.63%	85.63%
<b>Funded status as of valuation date:</b>		
Retirement		
Actuarial accrued liability	\$612,444,806	\$602,328,868
Actuarial value of assets	304,577,292	329,966,989
Unfunded liability on actuarial value of assets	307,867,514	272,361,879
Funded ratio on actuarial value of assets	49.73%	54.78%
Market value of assets	\$264,944,089	\$256,571,073
Unfunded liability on market value of assets	347,500,717	345,757,795
Funded ratio on market value of assets	43.26%	42.60%
Insurance		
Actuarial accrued liability	\$434,960,495	\$364,031,141
Actuarial value of assets	121,175,083	123,526,647
Unfunded liability on actuarial value of assets	313,785,412	240,504,494
Funded ratio on actuarial value of assets	27.86%	33.93%
Market value of assets	\$104,526,550	\$93,686,940
Unfunded liability on market value of assets	330,433,945	270,344,201
Funded ratio on market value of assets	24.03%	25.74%
<b>Demographic data as of valuation date:</b>		
Number of retired participants and beneficiaries	1,223	1,184
Number of vested former members	55	58
Number of former members due a refund	290	274
Number of active members	961	946
Total salary	\$51,506,712	\$51,660,396
Average salary	\$53,597	\$54,609



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 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, plan designs for two of the Health Insurance plans that cover Medicare eligible retirees will change for Plan Year 2011. The changes are summarized below.
  - The KRS Health Plan Essential will replace the KRS Health Plan Plus.
  - The medical coverage under the KRS Health Plan Essential includes an increase to the annual deductible and the prescription drug coverage has been altered to reflect the same coverage as described in the Standard Medicare Part D benefit parameters.
  - The annual deductible, out-of-pocket maximum and prescription drug co-payments have increased under the KRS Health Plan Premium.
  - Plan design changes have also been implemented for Plan Year 2011 for the Kentucky Employees' Health Plan (KEHP), the self-insured plan for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky.
5. 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.
6. The investment rate of return for developing insurance liabilities and contribution rates shown in this report for June 30, 2009 and June 30, 2010 is 4.50%. The lower rate for insurance benefits is 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, 2010 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
961	\$51,506,712	\$53,597	37.2	10.6

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
6/30/2005	987	\$43,720,092	\$44,296	1.0%
6/30/2006	1,028	47,743,865	46,443	4.8
6/30/2007	957	49,247,580	51,460	10.8
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)

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	1,051	\$41,468,221	\$39,456	60.8
Disability	39	\$686,216	17,595	57.0
Beneficiary	133	3,361,360	25,273	64.4
Total in SPRS	1,223	\$45,515,797	\$37,217	61.1

This valuation also includes 345 inactive members of which 55 are vested.





**SECTION III - ASSETS**

1. As of June 30, 2010 the total market value of assets amounted to \$369,470,639 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.

<b>Retirement</b>	<b>Insurance</b>	<b>SPRS Total</b>
\$264,944,089	\$104,526,550	\$369,470,639

2. The five-year smoothed market related actuarial value of assets used for the current valuation was \$425,752,375. Schedule B shows the development of the actuarial value of assets as of June 30, 2010. The following table shows the actuarial value of assets.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	<b>JUNE 30, 2010</b>	<b>JUNE 30, 2009</b>
<b>Retirement</b>	\$ 304,577,292	\$ 329,966,989
<b>Insurance</b>	<u>121,175,083</u>	<u>123,526,647</u>
<b>Total</b>	\$ 425,752,375	\$ 453,493,636



## **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, 2010. 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 \$684,309,534, of which \$473,234,521 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$2,658,139 is for the prospective benefits payable on account of inactive members, \$208,416,874 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 \$304,577,292 as of June 30, 2010. The difference of \$379,732,242 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, \$36,719,577 is the present value of future contributions expected to be made by members, and the balance of \$343,012,665 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 7.50% of payroll are required to provide the benefits of the System for the average new member of SPRS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$35,145,151. When this amount is subtracted from \$343,012,665, which is the present value of the total future contributions to be made by the State, there remains \$307,867,514 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 32.05% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$307,867,514 over 27 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 0.25% 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 \$597,169,621, of which \$245,812,639 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$7,768,188 is for the prospective benefits payable on account of inactive members, and \$343,588,794 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 \$121,175,083 as of June 30, 2010. The difference of \$475,994,538 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, \$599,327 is the present value of future contributions expected to be made by members, and the balance of \$475,395,211 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 31.99% of payroll are required to provide the benefits of the System for the average new member of SPRS.
3. Prospective employer normal contributions on account of insurance benefits at the above rates have a present value of \$161,609,799. When this amount is subtracted from \$475,395,211, which is the present value of the total future contributions to be made by the employers, there remains \$313,785,412 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 22.56% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$313,785,412 over 27 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 0.28% 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, 2010 is shown below (\$ millions).

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

		<b>Amount</b>	
(1)	UAAL* as of 6/30/09	\$	272.4
(2)	Normal cost from last valuation		4.2
(3)	Employer contributions		9.5
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875		21.1
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	288.2
(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)	\$	288.2
(9)	Actual UAAL as of 6/30/10	\$	307.9
(10)	Gain/(loss): (8) - (9)	\$	(19.7)
(11)	Accrued liabilities as of 6/30/09	\$	602.3
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		(3.3)%

*\*Unfunded actuarial accrued liability.*



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

		Amount
(1)	UAAL* as of 6/30/09	\$ 240.5
(2)	Normal cost from last valuation	17.1
(3)	Expected employer contributions	<u>25.7</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .045	10.4
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 242.3
(6)	Change due to plan amendments	0.0
(7)	Change due to new actuarial assumption or methods	0.0
(8)	Data correction**	61.0
(9)	Expected UAAL after changes: (5) + (6) + (7) + (8)	\$ 303.3
(10)	Actual UAAL as of 6/30/10	\$ 313.8
(11)	Gain/(loss): (9) - (10)	\$ (10.5)
(12)	Accrued liabilities as of 6/30/09	\$ 364.0
(13)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(2.9)%

\* *Unfunded actuarial accrued liability.*

\*\* *\$61 million loss due to 208 SPRS retirees with split service coded as covered for health insurance under SPRS this year who were coded without coverage in SPRS in prior years. Most of these 208 retirees were coded as covered for health insurance under CERS and KERS Nonhazardous in prior years and are now coded without coverage in these systems. It was determined during conversion to the new data system that these retirees are covered for health insurance under SPRS because the majority of their service was with SPRS and not with the other systems.*



**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 6/30/10	Insurance \$ Gain (or Loss) For Year Ending 6/30/10
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (7.5)	\$ (1.3)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.1)	(0.3)
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.0	0.0
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	0.7	2.2
<b>Pay or Claims Increases.</b> 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.	3.0	32.8
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	0.0	(0.2)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(17.5)	(4.3)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	(0.3)	4.7
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>2.0</u>	<u>(44.1)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (19.7)	\$ (10.5)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, method changes and data corrections	<u>0.0</u>	<u>(61.0)</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (19.7)	\$ (71.5)



**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 2011/2012 fiscal year.

**Required Contribution Rates  
Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 7,573,484	14.70%
(2) Disability benefits	328,405	0.64
(3) Survivor benefits	82,408	0.16
(4) Total	\$ 7,984,297	15.50%
B. Member Contributions	\$ 4,120,537	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 3,863,760	7.50%
D. Administrative Expenses	\$ 128,767	0.25%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/09 Valuation:	\$ 14,226,154	27.62%
(2) Change due to:		
a. Active decrements	\$ 373,490	0.73%
b. Pay increases	(159,903)	(0.31)
c. Retiree mortality	14,091	0.03
d. Investment return	936,721	1.82
e. COLA	337,908	0.66
f. Assumption Change	0	0.00
g. Other	776,937	1.50
h. Total Change	\$ 2,279,243	4.43%
(3) UAAL Contribution Based on 6/30/10 Valuation: [E(1) +E(2)h]	\$ 16,505,397	32.05%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 20,497,924	39.80%

\* Based on 28 year amortization of the UAAL from June 30, 2009 and 27 years from June 30, 2010



**Required Contribution Rates  
Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost	\$ 16,504,141	32.04%
B. Member Contributions*	\$ 25,753	0.05%
C. Employer Normal Cost: [A - B]	\$ 16,478,388	31.99%
D. Administrative Expenses	\$ 146,716	0.28%
E. Unfunded Actuarial Accrued Liability**	\$ 11,621,682	22.56%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 28,246,786	54.83%

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

*\*\* Based on 27 year amortization of the UAAL from June 30, 2010*





**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, 2010**

<b>GROUP</b>	<b>NUMBER</b>
Retirees and beneficiaries currently receiving benefits	1,223
Terminated employees entitled to benefits but not yet receiving benefits	345
Active Members	<u>961</u>
Total	2,529

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))
6/30/2005	\$ 353,511,622	\$ 458,593,576	\$ 105,081,954	77.1%	\$ 43,720,092	240.4%
6/30/2006	344,016,197	516,482,298	172,466,101	66.6	47,743,865	361.2
6/30/2007	348,806,508	547,955,286	199,148,778	63.7	49,247,580	404.4
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

**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))
6/30/2005	\$ 100,207,082	\$ 234,159,510	\$ 133,952,428	42.8%	\$ 43,720,092	306.4%
6/30/2006	105,580,269	582,580,867	477,000,598	18.1	47,743,865	999.1
6/30/2007	115,215,912	432,763,229	317,547,317	26.6	49,247,580	644.8
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2010. Additional information as of the latest actuarial valuation follows.

<b>Retirement Benefits</b>	
Valuation date	6/30/2010
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	27 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%

<b>Insurance Benefits</b>	
Valuation date	6/30/2010
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	27 years
Asset valuation method	5 Year Smoothed Market
Medical Trend Assumption (Pre-Medicare)	10.5% - 5.0%
Medical Trend Assumption (Post-Medicare)	9.0% - 5.0%
Year of Ultimate Trend	2018
Actuarial assumptions:	
Investment rate of return*	4.50%
*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, 2010 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2009. 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, 2010	JUNE 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 304,577,292	\$ 329,966,989
Prospective contributions		
Member contributions	\$ 36,719,577	\$ 36,405,148
Employer normal contributions	35,145,151	36,799,344
Unfunded accrued liability contributions	<u>307,867,514</u>	<u>272,361,879</u>
Total prospective contributions	<u>\$ 379,732,242</u>	<u>\$ 345,566,371</u>
Total assets	<u>\$ 684,309,534</u>	<u>\$ 675,533,360</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 473,234,521	\$ 456,671,083
Present value of benefits payable on account of active members	208,416,874	215,948,006
Present value of benefits payable on account of inactive members	<u>2,658,139</u>	<u>2,914,271</u>
Total liabilities	<u>\$ 684,309,534</u>	<u>\$ 675,533,360</u>



**VALUATION BALANCE SHEET  
INSURANCE BENEFITS**

	JUNE 30, 2010	JUNE 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 121,175,083	\$ 123,526,647
Prospective contributions		
Member contributions	\$ 599,327	\$ 269,371
Employer normal contributions	161,609,799	168,997,516
Unfunded accrued liability contributions	<u>313,785,412</u>	<u>240,504,494</u>
Total prospective contributions	<u>\$ 475,994,538</u>	<u>\$ 409,771,381</u>
 Total assets	 <u>\$ 597,169,621</u>	 <u>\$ 533,298,028</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 245,812,639	\$ 158,534,652
 Present value of benefits payable on account of active members	 343,588,794	 366,206,575
 Present value of benefits payable on account of inactive members	 <u>7,768,188</u>	 <u>8,556,801</u>
 Total liabilities	 <u>\$ 597,169,621</u>	 <u>\$ 533,298,028</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)				
6/30/2005*	\$ 35,670,717	\$ 341,398,363	\$ 81,524,496	\$ 353,511,622	100.0%	93.1%	0.0%
6/30/2006	37,866,774	373,588,145	105,027,379	344,016,197	100.0	81.9	0.0
6/30/2007	39,505,285	397,863,520	110,583,481	348,806,508	100.0	77.7	0.0
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

\*Reported by prior actuarial firm.

**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)				
6/30/2005*	\$ 0	\$ 141,585,694	\$ 92,573,816	\$ 100,207,082	100.0%	70.8%	0.0%
6/30/2006	0	240,913,868	341,666,999	105,580,269	100.0	43.8	0.0
6/30/2007	0	172,291,142	260,472,087	115,215,912	100.0	66.9	0.0
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

\*Reported by prior actuarial firm.



**SCHEDULE B**

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

Valuation date June 30:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 350,891,451	\$ 329,966,989				
B. Market Value End of Year	256,571,073	264,944,089				
C. Market Value Beginning of Year	337,358,918	256,571,073				
D. Cash Flow						
D1. Contributions	13,124,235	13,616,226				
D2. Benefit Payments	(42,615,976)	(45,726,064)				
D3. Administrative Expenses	(121,936)	(129,911)				
D4. Investment Expenses	<u>(344,480)</u>	<u>(810,560)</u>				
D5. Net	(29,958,157)	(33,050,309)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(50,829,688)	41,423,325				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	25,342,266	19,445,528				
E4. Amount for Phased-In Recognition	(76,171,954)	21,977,797				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(15,234,391)	4,395,559	0	0	0	0
F2. First Prior Year	(8,083,253)	(15,234,391)	4,395,559	0	0	0
F3. Second Prior Year	4,654,236	(8,083,253)	(15,234,391)	4,395,559	0	0
F4. Third Prior Year	2,482,933	4,654,236	(8,083,253)	(15,234,391)	4,395,559	0
F5. Fourth Prior Year	<u>(128,096)</u>	<u>2,482,933</u>	<u>4,654,236</u>	<u>(8,083,253)</u>	<u>(15,234,391)</u>	<u>4,395,559</u>
F6. Total Recognized Investment Gain	(16,308,571)	(11,784,916)	(14,267,849)	(18,922,085)	(10,838,832)	4,395,559
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 329,966,989	\$ 304,577,292				
H. Difference Between Market & Actuarial Values	\$ (73,395,916)	\$ (39,633,203)	\$ (25,365,354)	\$ (6,443,269)	\$ 4,395,559	\$ 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:	2009	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 123,961,197	\$ 123,526,647				
B. Market Value End of Year	93,686,940	104,526,550				
C. Market Value Beginning of Year	121,781,967	93,686,940				
D. Cash Flow						
D1. Contributions	7,670,129	8,670,692				
D2. Benefit Payments	(7,475,826)	(10,768,660)				
D3. Administrative Expenses	(123,525)	(146,716)				
D4. Investment Expenses	<u>(59,315)</u>	<u>(195,077)</u>				
D5. Net	11,463	(2,439,761)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(28,106,490)	13,279,371				
E2. Assumed Rate	4.50%	4.50%				
E3. Amount for Immediate Recognition	5,541,096	4,360,484				
E4. Amount for Phased-In Recognition	(33,647,586)	8,918,887				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(6,729,517)	1,783,777	0	0	0	0
F2. First Prior Year	(3,484,262)	(6,729,517)	1,783,777	0	0	0
F3. Second Prior Year	3,373,433	(3,484,262)	(6,729,517)	1,783,777	0	0
F4. Third Prior Year	784,282	3,373,433	(3,484,262)	(6,729,517)	1,783,777	0
F5. Fourth Prior Year	<u>68,955</u>	<u>784,282</u>	<u>3,373,433</u>	<u>(3,484,262)</u>	<u>(6,729,517)</u>	<u>1,783,777</u>
F6. Total Recognized Investment Gain	(5,987,109)	(4,272,287)	(5,056,569)	(8,430,002)	(4,945,740)	1,783,777
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 123,526,647	\$ 121,175,083				
H. Difference Between Market & Actuarial Values	\$ (29,839,707)	\$ (16,648,533)	\$ (11,591,964)	\$ (3,161,962)	\$ 1,783,777	\$ 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 benefits. A blended rate is necessary to meet GASB Statement 43 requirements for insurance benefits. The current blended rate for SPRS is 4.50%.

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 <sup>+</sup>	Rate <sup>++</sup>
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.

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

Fiscal Year Ended	Trend	
	Under Age 65	Age 65 and Over
2011	10.5%	9.0%
2012	9.5%	8.5%
2013	8.5%	7.5%
2014	7.5%	7.0%
2015	6.5%	6.5%
2016	6.0%	6.0%
2017	5.5%	5.5%
2018 and beyond	5.0%	5.0%

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



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

Participation	100%
Spouse Coverage	100%

Following are charts detailing expected premiums for pre- and post-Medicare for the year following the valuation date.

**MEDICAL INSURANCE CONTRIBUTION RATES  
PRE-MEDICARE ELIGIBLE**

2010					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56	
Optimum PPO	\$ 616.28	\$ 889.54	\$ 1,363.40	\$ 1,515.36	
Capitol Choice	\$ 594.14	\$ 896.06	\$ 1,347.50	\$ 1,490.60	

2011					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 486.40	\$ 749.84	\$ 1,127.80	\$ 1,253.56	
Optimum PPO	\$ 650.30	\$ 905.42	\$ 1,405.66	\$ 1,565.88	
Capitol Choice	\$ 625.68	\$ 909.02	\$ 1,387.36	\$ 1,537.92	

**MEDICARE ELIGIBLE**

Effective January 1, 2011	Self-Supporting (Used for OPEB claims cost)	Funding rates (Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 163.61	\$ 163.00
Kentucky Retirement System Health Plan - Essential	\$ 182.03	\$ 163.00
Kentucky Retirement System Health Plan - Premium	\$ 375.11	\$ 355.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted. In addition, the claims costs for the Essential and Premium plans are adjusted to reflect the front end CMS reimbursement of \$54.71 per member per month due to the EGWP.



**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.

**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 shown above. 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.

**ASSETS:** 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.



**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.

*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.

*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 with 60 months 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 will be set at 2.0%. Member entitled to a full refund of contributions with interest.
<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.





**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 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*
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 benefit.*

For Medicare-eligible retirees, the percentage paid by the Insurance Fund is applied to the funding rate premiums rather than the self-supporting amounts.

*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 \$18.48 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.32 per month for each year of earned. These amounts are shown as of the valuation date and are indexed annually based on the CPI prior to July 1, 2008 and by 1.5% thereafter.

*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**

<b>Year Ending June 30</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
			<b><u>Number</u></b>			
Beginning of Year	992	1,036	1,067	1,105	1,135	1,184
Added	50	43	49	42	75	54
Removed	6	10	11	12	26	15
End of Year	1,036	1,067	1,105	1,135	1,184	1,223
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 30,805,600	\$ 32,983,900	\$ 34,651,251	\$ 37,208,377	\$ 41,293,017	\$ 44,273,937
Added	1,813,000	1,943,760	2,836,956	4,330,608	3,380,331	1,543,665
Removed	159,600	276,409	279,830	245,968	399,410	301,805
End of Year	\$ 32,983,900	\$ 34,651,251	\$ 37,208,377	\$ 41,293,017	\$ 44,273,937	\$ 45,515,797
% Increase in Allowances	7.07%	5.06%	7.38%	10.98%	7.22%	2.80%
Average Annual Allowance	\$ 31,838	\$ 32,475	\$ 33,673	\$ 36,382	\$ 37,394	\$ 37,217

\*Reported by prior actuarial firm.



### Retired Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	96	\$ 298,488.92	8	\$ 21,252.00	104	\$ 319,740.92
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	114	351,629.31	1	4,480.13	115	356,109.44
66-2/3% to Beneficiary	80	299,865.08	1	2,955.01	81	302,820.09
50% to Beneficiary	79	282,250.97	0	0.00	79	282,250.97
Pop-up Option	421	1,471,374.40	4	13,523.83	425	1,484,898.23
10 Years Certain	2	4,387.34	0	0.00	2	4,387.34
10 Years Certain & Life	34	106,778.24	0	0.00	34	106,778.24
Social Security Option						
Age 62 Basic	31	84,104.26	0	0.00	31	84,104.26
Age 62 Survivorship	148	363,029.99	1	7,697.81	149	370,727.80
Parital 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	12	35,435.09	1	3,803.70	13	39,238.79
20 Years Certain & Life	34	109,129.30	1	2,730.19	35	111,859.49
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	452.72	2	452.72
PLSO 12 Month Survivor	6	20,171.54	0	0.00	6	20,171.54
PLSO 24 Month Survivor	5	12,913.69	0	0.00	5	12,913.69
PLSO 36 Month Survivor	9	16,416.24	0	0.00	9	16,416.24
<b>Total</b>	<b>1,071</b>	<b>\$ 3,455,974.37</b>	<b>19</b>	<b>\$ 56,895.39</b>	<b>1,090</b>	<b>\$ 3,512,869.76</b>



### Beneficiary Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	0	\$ 0.00	1	\$ 418.94	1	\$ 418.94
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	4	4,668.31	56	143,066.43	60	147,734.74
66-2/3% to Beneficiary	1	776.58	5	9,212.32	6	9,988.90
50% to Beneficiary	1	1,260.54	15	21,955.74	16	23,216.28
Pop-up Option	1	464.16	15	30,254.18	16	30,718.34
10 Years Certain	1	574.16	0	0.00	1	574.16
10 Years Certain & Life	0	0.00	0	0.00	0	0.00
Social Security Option						
Age 62 Basic	0	0.00	1	2,402.05	1	2,402.05
Age 62 Survivorship	0	0.00	26	52,664.70	26	52,664.70
Parital 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	0	0.00	4	6,660.77	4	6,660.77
5 Years Certain	2	5,734.43	0	0.00	2	5,734.43
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
<b>Total</b>	<b>10</b>	<b>\$ 13,478.18</b>	<b>123</b>	<b>\$ 266,635.13</b>	<b>133</b>	<b>\$ 280,113.31</b>



**Retired and Beneficiary Information June 30, 2010  
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	32	\$ 1,003,494	4	\$ 58,730	6	\$ 65,369	42	\$ 1,127,592
45-49	95	3,482,823	5	70,757	4	68,089	104	3,621,669
50-54	115	4,729,910	7	141,734	8	79,841	130	4,951,485
55-59	236	10,143,300	7	88,719	11	234,957	254	10,466,976
60-64	273	10,994,163	8	176,162	17	389,816	298	11,560,141
65-69	125	4,483,226	3	44,762	21	538,831	149	5,066,819
70-74	81	2,821,079	3	72,631	5	211,021	89	3,104,731
75-79	51	1,996,477	2	32,721	20	675,264	73	2,704,462
80-84	30	1,242,141	0	0	21	533,784	51	1,775,925
85-89	11	556,625	0	0	16	524,771	27	1,081,396
90 & Over	2	14,985	0	0	4	39,617	6	54,602
Totals	1,051	\$ 41,468,221	39	\$ 686,216	133	\$ 3,361,360	1,223	\$ 45,515,797



**Total Active Members as of June 30, 2010  
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	33 \$33,561	2 \$47,976							35 \$34,385
25-29 Avg Pay	72 \$38,002	42 \$48,293							114 \$41,793
30-34 Avg Pay	50 \$39,326	127 \$49,553	27 \$53,308						204 \$47,544
35-39 Avg Pay	37 \$34,018	65 \$50,197	97 \$55,661	45 \$62,714	2 \$65,526				246 \$52,332
40-44 Avg Pay	10 \$44,816	28 \$49,781	55 \$55,761	81 \$66,277	35 \$69,627	2 \$67,332			211 \$60,895
44-49 Avg Pay	2 \$44,484	12 \$48,221	10 \$58,216	31 \$62,354	38 \$72,664	8 \$78,810	5 \$74,160	2 \$77,628	108 \$65,746
50-54 Avg Pay	3 \$43,548		2 \$49,608	3 \$59,916	9 \$69,300	6 \$74,746	5 \$75,540	4 \$78,021	32 \$67,862
55-59 Avg Pay			1 \$64,932			1 \$69,912	2 \$80,220	1 \$78,444	5 \$74,746
60-64 Avg Pay								4 \$88,560	4 \$88,560
65-69 Avg Pay				1 \$66,936					1 \$66,936
70 & over Avg Pay		1 \$50,328							1 \$50,328
<b>Totals Avg Pay</b>	<b>207 \$37,374</b>	<b>277 \$49,470</b>	<b>192 \$55,477</b>	<b>161 \$64,411</b>	<b>84 \$70,868</b>	<b>17 \$75,502</b>	<b>12 \$75,745</b>	<b>11 \$81,820</b>	<b>961 \$53,597</b>