



**Report on the Annual Valuations of the  
Kentucky Employees Retirement System  
County Employees Retirement System  
State Police Retirement System**

**Prepared as of June 30, 2009**



# Cavanaugh Macdonald

CONSULTING, LLC

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November 9, 2009

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-third annual actuarial valuation of the Kentucky Employees Retirement System, the fiftieth annual actuarial valuation of the County Employees Retirement System, and the fifty-first 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, 2009 actuarial valuation will be used by the Board of Trustees to certify the employer contribution rates for the fiscal year beginning July 1, 2010 and ending June 30, 2011.

**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) are 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).

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Overall, the total contribution for the pension fund is expected to remain stable as a percentage of payroll over future years in the absence of benefit improvements and material experience gains or losses. 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, 2009 the funding levels for the pension funds are as follows:

System	Pension Funding Level
KERS Non-Hazardous Pension Fund	45.0%
KERS Hazardous Pension Fund	74.5%
CERS Non-Hazardous Pension Fund	71.4%
CERS Hazardous Pension Fund	67.9%
SPRS Pension Fund	54.8%

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, 2009 the funding level for the insurance funds are as follows:



System	Insurance Funding Level
KERS Non-Hazardous Insurance Fund	11.9%
KERS Hazardous Insurance Fund	61.4%
CERS Non-Hazardous Insurance Fund	39.6%
CERS Hazardous Insurance Fund	40.9%
SPRS Insurance Fund	33.9%

### 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. The health care cost trend assumptions were updated for the June 30, 2007 valuation adopted by the Board November 15, 2007. 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, appearing to read 'Thomas J. Cavanaugh'.

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





### Summary of June 30, 2009 Actuarial Valuation Results

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
<b><u>Recommended Contribution Rate (Fiscal Year 2010-2011)</u></b>					
Pension Fund Contribution	21.77%	14.11%	10.03%	16.79%	35.74%
Insurance Fund Contribution	<u>16.81</u>	<u>20.26</u>	<u>9.78</u>	<u>23.27</u>	<u>49.89</u>
Recommended Employer Contribution	38.58%	34.37%	19.81%	40.06%	85.63%
<b><u>Funded Status as of Valuation Date</u></b>					
<b><i>Pension Fund</i></b>					
Actuarial Liability	\$10,658,549,532	\$674,411,781	\$7,912,913,512	\$2,578,444,600	\$602,328,868
Actuarial Value of Assets	4,794,611,365	502,503,287	5,650,789,991	1,751,487,540	329,966,989
Unfunded Actuarial Liability on Actuarial Value of Assets	5,863,938,167	171,908,494	2,262,123,521	826,957,060	272,361,879
Funding Level as a % of Actuarial Value of Assets	45.0%	74.5%	71.4%	67.9%	54.8%
Market Value of Assets	\$3,584,196,429	\$388,913,374	\$4,330,593,934	\$1,320,522,868	\$256,571,073
Unfunded Actuarial Liability on Market Value of Assets	7,074,353,103	285,498,407	3,582,319,578	1,257,921,732	345,757,795
Funding Level on Market Value of Assets	33.6%	57.7%	54.7%	51.2%	42.6%
<b><i>Insurance Fund</i></b>					
Actuarially Accrued Liability	\$4,507,325,571	\$491,132,170	\$3,070,386,018	\$1,593,548,263	\$364,031,141
Actuarial Value of Assets	534,172,580	301,634,592	1,216,631,769	651,130,782	123,526,647
Unfunded Actuarial Liability as a % of Actuarial Value of Assets	3,973,152,991	189,497,578	1,853,754,249	942,417,481	240,504,494
Funding Level as a % of Actuarial Value of Assets	11.9%	61.4%	39.6%	40.9%	33.9%
Market Value of Assets	\$365,771,088	\$219,537,255	\$894,905,841	\$483,269,862	\$93,686,940
Unfunded Actuarial Liability as a % of Market Value of Assets	4,141,554,483	271,594,915	2,175,480,177	1,110,278,401	270,344,201
Funding Level on Market Value of Assets	8.1%	44.7%	29.2%	30.3%	25.7%
<b><u>Member Data</u></b>					
Number of Active Members	46,060	4,334	83,724	9,757	946
Total Annual Payroll (Active Members)	\$1,754,412,912	\$146,043,576	\$2,183,611,848	\$469,315,464	\$51,660,396
Average Annual Pay (Active Members)	\$38,090	\$33,697	\$26,081	\$48,100	\$54,609
Number of Retired Members & Beneficiaries	37,883	2,648	39,756	5,808	1,184
Average Annual Retirement Allowance	\$21,449	\$14,613	\$11,069	\$24,085	\$37,394
Number of Vested Inactive Members	5,745	303	9,182	549	58



### 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 six 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	36.92	10.01
<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
<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	91.93	30.07

Had the recommended contributions been made over this period of time, the contribution rates recommended as a result of the June 30, 2009 valuations would have been reduced by 2.99% of payroll for KERS Non-Hazardous, 1.67% for KERS Hazardous and 5.14% 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	35.1%	23.8%
KERS Hazardous	69.0	48.3
CERS Non-Hazardous	62.5	43.8
CERS Hazardous	57.6	39.6
SPRS	46.9	33.2

- Impact of Blended Interest Rates on Insurance Valuations - The June 30, 2009 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, 2009 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	16.81%	10.98%
SPRS	49.89	24.10



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

**Prepared as of June 30, 2009**





November 10, 2009

## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

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, 2010. The date of the valuation was June 30, 2009.

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

**PREPARED AS OF JUNE 30, 2009**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2009, 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	
	6/30/2009	6/30/2008	6/30/2009	6/30/2008	6/30/2009	6/30/2008
<b>Contributions for next fiscal year:</b>						
Retirement	21.77%	18.96%	14.11%	11.98%		
Insurance	<u>16.81</u>	<u>20.49</u>	<u>20.26</u>	<u>23.56</u>	N/A	N/A
Total	38.58%	39.45%	34.37%	35.54%		
<b>Funded status as of valuation date:</b>						
<b>Retirement</b>						
Actuarial accrued liability	\$10,658,549,532	\$10,129,689,985	\$674,411,781	\$618,010,827	\$11,332,961,313	\$10,747,700,812
Actuarial value of assets	4,794,611,365	5,318,792,893	502,503,287	502,132,214	5,297,114,652	5,820,925,107
Unfunded liability on actuarial value of assets	5,863,938,167	4,810,897,092	171,908,494	115,878,613	6,035,846,661	4,926,775,705
Funded ratio on actuarial value of assets	44.98%	52.51%	74.51%	81.25%	46.74%	54.16%
Market value of assets	\$3,584,196,429	\$5,056,867,294	\$388,913,374	\$484,440,015	\$3,973,109,803	\$5,541,307,309
Unfunded liability on market value of assets	7,074,353,103	5,072,822,691	285,498,407	133,570,812	7,359,851,510	5,206,393,504
Funded ratio on market value of assets	33.63%	49.92%	57.67%	78.39%	35.06%	51.56%
<b>Insurance</b>						
Actuarial accrued liability	\$4,507,325,571	\$5,431,499,285	\$491,132,170	\$541,657,214	\$4,998,457,741	\$5,973,156,499
Actuarial value of assets	534,172,580	603,197,761	301,634,592	288,161,759	835,807,172	891,359,520
Unfunded liability on actuarial value of assets	3,973,152,991	4,828,301,524	189,497,578	253,495,455	4,162,650,569	5,081,796,979
Funded ratio on actuarial value of assets	11.85%	11.11%	61.42%	53.20%	16.72%	14.92%
Market value of assets	\$365,771,088	\$574,480,809	\$219,537,255	\$269,299,859	\$585,308,343	\$843,780,668
Unfunded liability on market value of assets	4,141,554,483	4,857,018,476	271,594,915	272,357,355	4,413,149,398	5,129,375,831
Funded ratio on market value of assets	8.12%	10.58%	44.70%	49.72%	11.71%	14.13%
<b>Demographic data as of valuation date:</b>						
Number of retired participants and beneficiaries	37,883	35,307	2,648	2,404	40,531	37,711
Number of vested former members	5,745	5,605	303	287	6,048	5,892
Number of former members due a refund	28,770	27,597	2,753	2,640	31,523	30,237
Number of active members	46,060	48,085	4,334	4,393	50,394	52,478
Total salary	\$1,754,412,912	\$1,837,873,488	\$146,043,576	\$148,710,060	\$1,900,456,488	\$1,986,583,548
Average salary	\$38,090	\$38,221	\$33,697	\$33,852	\$37,712	\$37,856



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 changes in benefit provisions since the last valuation. On June 27, 2008 House Bill 1, the Pension Reform legislation, was signed by Governor Beshear. This law is a comprehensive pension reform that will significantly impact retirement benefits for employees who begin participating with the Kentucky Retirement Systems on or after September 1, 2008. The summary of main benefit and contribution provisions can be found in Schedule D. Most provisions of HB 1 apply to employees hired on or after September 1, 2008, including the following:
  - A tiered structure for benefit factors
  - Additional nonrefundable 1% employee contribution to a health insurance account
  - New retirement eligibility requirements
  - Different rules on computing final compensation for retirement
  - Different medical insurance eligibility
  - Different post-retirement medical insurance benefit cost-of-living increase
5. An additional benefit change beyond HB 1 was the implementation of an Employer Group Waiver Plan contracting directly with CMS to provide a Medicare Part D prescription drug plan. This change resulted in a significant decrease in the insurance liabilities in this valuation.
6. There were changes in actuarial assumptions since the last valuation. In August 2009, the Board approved the Kentucky Retirement Systems Experience Study for the Three-Year Period Ending June 30, 2008. The actuarial assumptions and methods employed can be found in Schedule C.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
8. The investment rate of return for developing insurance liabilities and contribution rates shown in this report for June 30, 2008 and June 30, 2009 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, 2009 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	46,060	\$1,754,412,912	\$38,090	43.0	8.7
Hazardous	4,334	146,043,576	33,697	41.4	7.0
Total in KERS	50,394	\$1,900,456,488	\$37,712	42.9	8.5

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
6/30/2004	47,599	\$1,645,412,496	\$34,568	2.5%
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)

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

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2004	4,014	\$126,664,812	\$31,556	2.4%
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)



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	32,089	\$745,864,962	\$23,244	65.8
Disability	1,867	21,947,848	11,756	63.4
Beneficiary	3,927	44,746,260	11,395	70.5
Total in KERS	37,883	\$812,559,070	\$21,449	66.2

### Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retiree	2,270	\$35,696,472	\$15,725	61.6
Disability	123	988,864	8,040	57.5
Beneficiary	255	2,010,165	7,883	60.9
Total in KERS	2,648	\$38,695,501	\$14,613	61.3

This valuation also includes 37,571 inactive members (34,515 Non-Hazardous and 3,056 Hazardous; of which 5,745 Non-Hazardous are vested and 303 Hazardous are vested.)



**SECTION III – ASSETS**

- As of June 30, 2009 the total market value of assets amounted to \$4,558,418,146 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, 2009**

Member Group	Retirement	Insurance	KERS Total
Non-Hazardous	\$3,584,196,429	\$365,771,088	\$3,949,967,517
Hazardous	<u>388,913,374</u>	<u>219,537,255</u>	<u>608,450,629</u>
Total	\$3,973,109,803	\$585,308,343	\$4,558,418,146

- The five-year smoothed market related actuarial value of assets used for the current valuation was \$6,132,921,824 . Schedule B shows the development of the actuarial value of assets as of June 30, 2009. The following table shows the actuarial value of assets allocated among member groups.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	June 30, 2009	June 30, 2008
<b>Retirement</b>		
Non-Hazardous	\$ 4,794,611,365	\$ 5,318,792,893
Hazardous	<u>502,503,287</u>	<u>502,132,214</u>
Total	\$ 5,297,114,652	\$ 5,820,925,107
<b>Insurance</b>		
Non-Hazardous	\$ 534,172,580	\$ 603,197,761
Hazardous	<u>301,634,592</u>	<u>288,161,759</u>
Total	\$ 835,807,172	\$ 891,359,520
<b>KERS Total</b>		
Non-Hazardous	\$ 5,328,783,945	\$ 5,921,990,654
Hazardous	<u>804,137,879</u>	<u>790,293,973</u>
Total	\$ 6,132,921,824	\$ 6,712,284,627





## 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, 2009. 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 \$12,959,619,959, of which \$8,430,911,176 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$188,216,871 is for the prospective benefits payable on account of present inactive members, and \$4,340,491,912 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 \$5,297,114,652 as of June 30, 2009. The difference of \$7,662,505,307 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, \$933,812,016 is the present value of future contributions expected to be made by members, and the balance of \$6,728,693,291 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 3.80% of payroll for non-hazardous members and 7.45% 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 \$692,846,630. When this amount is subtracted from \$6,728,693,291, which is the present value of the total future contributions to be made by the employers, there remains \$6,035,846,661 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 17.51% 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 6.17% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$5,863,938,167 for non-hazardous members and \$171,908,494 for hazardous members over 28 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 0.49% 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 \$6,943,817,340, of which \$2,813,692,193 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$290,298,260 is for the prospective benefits payable on account of present inactive members, and \$3,839,826,887 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 \$835,807,172 as of June 30, 2009. The difference of \$6,108,010,168 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, \$13,629,537 is the present value of future contributions expected to be made by members, and the balance of \$6,094,380,631 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 8.49% of payroll for non-hazardous members and 13.36% 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 \$1,931,730,062. When this amount is subtracted from \$6,094,380,631, which is the present value of the total future contributions to be made by the employers, there remains \$4,162,650,569 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 8.09% 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 6.80% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$3,973,152,991 for non-hazardous members and \$189,497,578 for hazardous members over 28 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 0.23% of payroll for non-hazardous members and 0.10% 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, 2009 is shown below (\$ millions).

### Experience Gain/(Loss) Retirement Benefits

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/08	\$ 4,810.9	\$ 115.9	\$ 4,926.8
(2)	Normal cost from last valuation	65.2	10.5	75.7
(3)	Employer contributions	112.4	15.8	128.2
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	373.5	9.2	382.7
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 5,137.2	\$ 119.8	\$ 5,257.0
(6)	Change due to plan amendments	(45.3)	(5.9)	(51.2)
(7)	Change due to new actuarial assumption or methods	(11.6)	10.2	(1.4)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 5,080.3	\$ 124.1	\$ 5,204.4
(9)	Actual UAAL as of 6/30/09	\$ 5,863.9	\$ 171.9	\$ 6,035.8
(10)	Gain/(loss): (8) - (9)	\$ (783.6)	\$ (47.8)	\$ (831.4)
(11)	Accrued liabilities as of 6/30/08	\$ 10,129.7	\$ 618.0	\$ 10,747.7
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(7.7%)	(7.7%)	(7.7%)

\*Unfunded actuarial accrued liability.





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

		Non-Hazardous Group		Hazardous Group		Total
(1)	UAAL* as of 6/30/08	\$ 4,828.3		\$ 253.5		\$ 5,081.8
(2)	Normal cost from last valuation	183.2		20.4		203.6
(3)	Expected employer contributions	<u>373.1</u>		<u>34.9</u>		<u>408.0</u>
(4)	Interest accrual: Non-Haz: [(1) + (2) - (3)] x .045 Haz: [(1) + (2) - (3)] x .0775	208.7		18.5		227.2
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 4,847.1		\$ 257.5		\$ 5,104.6
(6)	Change due to plan amendments, including adoption of the Employer Group Waiver Plan	(658.3)		(50.3)		(708.6)
(7)	Change due to new actuarial assumption or methods	(620.1)		(35.8)		(655.9)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 3,568.7		\$ 171.4		\$ 3,740.1
(9)	Actual UAAL as of 6/30/09	\$ 3,973.2		\$ 189.5		\$ 4,162.7
(10)	Gain/(loss): (8) - (9)	\$ (404.5)		\$ (18.1)		\$ (422.6)
(11)	Accrued liabilities as of 6/30/08	\$ 5,431.5		\$ 541.7		\$ 5,973.2
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(7.4%)		(3.3%)		(7.1%)

\*Unfunded actuarial accrued liability.



**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 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (312.8)	\$ (167.6)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.2	5.4
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.3)	(5.7)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	169.9	38.7
<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.	17.0	260.3
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(9.0)	(15.9)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(307.9)	(39.8)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	5.2	44.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(344.9)</u>	<u>(524.3)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (783.6)	\$ (404.5)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>56.9</u>	<u>1,278.4</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (726.7)	\$ 873.9



**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 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (20.4)	\$ (10.6)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.9	1.0
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.2	0.2
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	14.9	9.1
<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.	4.2	25.4
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(1.3)	(1.0)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(26.8)	(18.7)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	1.4	6.7
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(20.9)</u>	<u>(30.2)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (47.8)	\$ (18.1)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>(4.3)</u>	<u>86.1</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (52.1)	\$ 68.0





**TOTAL KERS MEMBERS  
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (333.2)	\$ (178.2)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	1.1	6.4
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1.1)	(5.5)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	184.8	47.8
<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.	21.2	285.7
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(10.3)	(16.9)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(334.7)	(58.5)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	6.6	51.1
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(365.8)</u>	<u>(554.5)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (831.4)	\$ (422.6)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>52.6</u>	<u>1,364.5</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (778.8)	\$ 941.9



**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 2010/2011 fiscal year.

**Required Contribution Rates  
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 140,944,684	8.03%
(2) Disability benefits	11,057,838	0.63
(3) Survivor benefits	2,388,655	0.14
(4) Total	\$ 154,391,177	8.80%
B. Member Contributions	\$ 87,720,646	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 66,670,531	3.80%
D. Administrative Expenses	\$ 8,070,299	0.46%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/08 Valuation:	\$ 275,526,317	14.99%
(2) Change due to:		
a. Active decrements	\$ 9,113,501	0.52%
b. Pay increases	(890,586)	(0.05)
c. Retiree mortality	(272,694)	(0.02)
d. Investment return	16,131,481	0.92
e. COLA	10,763,092	0.61
f. Assumption Change	2,982,383	0.17
g. Other	(6,179,089)	(0.36)
h. Total Change	\$ 31,648,089	2.52%
(3) UAAL Contribution Based on 6/30/09 Valuation: [E(1) +E(2)h]	\$ 307,174,406	17.51%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 381,915,236	21.77%

*\*Based on 29 year amortization of the UAAL from June 30, 2008 and 28 years from June 30, 2009*



**Required Contribution Rates  
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 20,367,383	13.86%
(2) Disability benefits	1,806,436	1.15
(3) Survivor benefits	393,931	0.25
(4) Total	\$ 22,567,750	15.45%
B. Member Contributions	\$ 11,683,486	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 10,884,264	7.45%
D. Administrative Expenses	\$ 715,614	0.49%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/08 Valuation:	\$ 6,762,023	4.46%
(2) Change due to:		
a. Active decrements	\$ 225,849	0.15%
b. Pay increases	(221,305)	(0.15)
c. Retiree mortality	(72,968)	(0.05)
d. Investment return	1,406,121	0.96
e. COLA	482,659	0.33
f. Assumption Change	(535,731)	(0.37)
g. Other	958,543	0.65
h. Total Change	\$ 2,243,169	1.71%
(3) UAAL Contribution Based on 6/30/09 Valuation: [E(1) +E(2)h]	\$ 9,005,192	6.17%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 20,605,070	14.11%

\* Based on 29 year amortization of the UAAL from June 30, 2008 and 30 years from June 30, 2009





**Required Contribution Rates  
Non-Hazardous Insurance**

Contribution for		Amount	% of Payroll
A.	Normal Cost:	\$ 149,770,311	8.54%
B.	Member Contributions*	\$ 877,206	0.05%
C.	Employer Normal Cost: [A - B]	\$ 148,893,105	8.49%
D.	Administrative Expenses	\$ 4,106,387	0.23%
E.	Unfunded Actuarial Accrued Liability**:	\$ 141,898,321	8.09%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 294,897,813	16.81%

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

*\*\* Based on 28 year amortization of the UAAL from June 30, 2009*

**Required Contribution Rates  
Hazardous Insurance**

Contribution for		Amount	% of Payroll
A.	Normal Cost:	\$ 19,587,845	13.41%
B.	Member Contributions*	\$ 73,022	0.05%
C.	Employer Normal Cost: [A - B]	\$ 19,514,823	13.36%
D.	Administrative Expenses	\$ 143,862	0.10%
E.	Unfunded Actuarial Accrued Liability**:	\$ 9,926,572	6.80%
F.	Total Recommended Employer Contribution Rate: [C+D+E]	\$ 29,585,257	20.26%

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

*\*\* Based on 28 year amortization of the UAAL from June 30, 2009*



**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, 2009**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	37,883	2,648	40,531
Terminated employees entitled to benefits but not yet receiving benefits	34,515	3,056	37,571
Active Members	<u>46,060</u>	<u>4,334</u>	<u>50,394</u>
Total	118,458	10,038	128,496

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>						
6/30/2004	\$ 6,000,513,743	\$ 7,049,613,171	\$ 1,049,099,428	85.1%	\$ 1,645,412,496	63.8%
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
<b>Hazardous Members</b>						
6/30/2004	\$ 397,212,763	\$ 403,578,036	\$ 6,365,273	98.4%	\$ 126,664,812	5.0%
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
<b>Total KERS Members</b>						
6/30/2004	\$ 6,397,726,506	\$ 7,453,191,207	\$ 1,055,464,701	85.8%	\$ 1,772,077,308	59.6%
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





**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>						
6/30/2004	\$ 600,586,961	\$ 2,335,905,365	\$ 1,735,318,404	25.7%	\$ 1,645,412,496	105.5%
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
<b>Hazardous Members</b>						
6/30/2004	\$ 169,158,879	\$ 323,503,563	\$ 154,344,684	52.3%	\$ 126,664,812	121.9%
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
<b>Total KERS Members</b>						
6/30/2004	\$ 769,745,840	\$ 2,659,408,928	\$ 1,889,663,088	28.9%	\$ 1,772,077,308	106.6%
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2009. Additional information as of the latest actuarial valuation follows.

### Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2009	6/30/2009
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	28 years	28 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	6/30/2009	6/30/2009
Actuarial cost method	Entry Age	Entry Age
Amortization	Level Percent Closed	Level Percent Closed
Remaining amortization period	28 years	28 years
Asset valuation method	5 Year Smoothed Market	5 Year Smoothed Market
Medical Trend Assumption	10.5% - 5.0%	10.5% - 5.0%
Year Ultimate Trend	2017	2017
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, 2009 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2008. 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, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 4,794,611,365	\$ 5,318,792,893
Prospective contributions		
Member contributions	\$ 836,173,026	\$ 781,785,019
Employer normal contributions	604,255,306	554,332,337
Unfunded accrued liability contributions	<u>5,863,938,167</u>	<u>4,810,897,092</u>
Total prospective contributions	<u>\$ 7,304,366,499</u>	<u>\$ 6,147,014,448</u>
Total assets	<u>\$ 12,098,977,864</u>	<u>\$ 11,465,807,341</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,034,479,089	\$ 6,997,568,860
Present value of benefits payable on account of active members	3,893,822,173	4,303,310,641
Present value of benefits payable on account of inactive members	<u>170,676,602</u>	<u>164,927,840</u>
Total liabilities	<u>\$ 12,098,977,864</u>	<u>\$ 11,465,807,341</u>





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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 502,503,287	\$ 502,132,214
Prospective contributions		
Member contributions	\$ 97,638,990	\$ 98,075,984
Employer normal contributions	88,591,324	86,705,225
Unfunded accrued liability contributions	<u>171,908,494</u>	<u>115,878,613</u>
Total prospective contributions	<u>\$ 358,138,808</u>	<u>\$ 300,659,822</u>
 Total assets	 <u>\$ 860,642,095</u>	 <u>\$ 802,792,036</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 396,432,087	\$ 340,430,078
 Present value of benefits payable on account of active members	 446,669,739	 447,020,159
 Present value of benefits payable on account of inactive members	 <u>17,540,269</u>	 <u>15,341,799</u>
 Total liabilities	 <u>\$ 860,642,095</u>	 <u>\$ 802,792,036</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 5,297,114,652	\$ 5,820,925,107
Prospective contributions		
Member contributions	\$ 933,812,016	\$ 879,861,003
Employer normal contributions	692,846,630	641,037,562
Unfunded accrued liability contributions	6,035,846,661	4,926,775,705
Total prospective contributions	<u>\$ 7,662,505,307</u>	<u>\$ 6,447,674,270</u>
Total assets	<u>\$ 12,959,619,959</u>	<u>\$ 12,268,599,377</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,430,911,176	\$ 7,337,998,938
Present value of benefits payable on account of active members	4,340,491,912	4,750,330,800
Present value of benefits payable on account of inactive members	<u>188,216,871</u>	<u>180,269,639</u>
Total liabilities	<u>\$ 12,959,619,959</u>	<u>\$ 12,268,599,377</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 534,172,580	\$ 603,197,761
Prospective contributions		
Member contributions	\$ 12,903,248	\$ 0
Employer normal contributions	1,774,858,516	1,628,379,162
Unfunded accrued liability contributions	3,973,152,991	4,828,301,524
Total prospective contributions	<u>\$ 5,760,914,755</u>	<u>\$ 6,456,680,686</u>
Total assets	<u>\$ 6,295,087,335</u>	<u>\$ 7,059,878,447</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,586,293,577	\$ 2,456,368,401
Present value of benefits payable on account of active members	3,433,220,247	4,271,688,693
Present value of benefits payable on account of inactive members	<u>275,573,511</u>	<u>331,821,353</u>
Total liabilities	<u>\$ 6,295,087,335</u>	<u>\$ 7,059,878,447</u>





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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 301,634,592	\$ 288,161,759
Prospective contributions		
Member contributions	\$ 726,289	\$ 0
Employer normal contributions	156,871,546	140,014,551
Unfunded accrued liability contributions	189,497,578	253,495,455
Total prospective contributions	<u>\$ 347,095,413</u>	<u>\$ 393,510,006</u>
Total assets	<u>\$ 648,730,005</u>	<u>\$ 681,671,765</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 227,398,616	\$ 212,095,343
Present value of benefits payable on account of active members	406,606,640	452,836,825
Present value of benefits payable on account of inactive members	<u>14,724,749</u>	<u>16,739,597</u>
Total liabilities	<u>\$ 648,730,005</u>	<u>\$ 681,671,765</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 835,807,172	\$ 891,359,520
Prospective contributions		
Member contributions	\$ 13,629,537	\$ 0
Employer normal contributions	1,931,730,062	1,768,393,713
Unfunded accrued liability contributions	<u>4,162,650,569</u>	<u>5,081,796,979</u>
Total prospective contributions	<u>\$ 6,108,010,168</u>	<u>\$ 6,850,190,692</u>
Total assets	<u><u>\$ 6,943,817,340</u></u>	<u><u>\$ 7,741,550,212</u></u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,813,692,193	\$ 2,668,463,744
Present value of benefits payable on account of active members	3,839,826,887	4,724,525,518
Present value of benefits payable on account of inactive members	<u>290,298,260</u>	<u>348,560,950</u>
Total liabilities	<u><u>\$ 6,943,817,340</u></u>	<u><u>\$ 7,741,550,212</u></u>



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

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

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2004*	\$ 915,105,103	\$ 4,452,864,748	\$ 1,681,643,320	\$ 6,000,513,743	100.0%	100.0%	37.6%
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	875,178,069	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

\*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)				
6/30/2004*	\$ 78,817,575	\$ 175,102,848	\$ 149,657,613	\$ 397,212,763	100.0%	100.0%	95.7%
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

\*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)				
6/30/2004*	\$ 0	\$ 1,282,214,660	\$ 1,053,690,705	\$ 600,586,961	100.0%	46.8%	0.0%
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

*\*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)				
6/30/2004*	\$ 0	\$ 142,872,557	\$ 180,631,006	\$ 169,158,879	100.0%	100.0%	14.6%
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

*\*Reported by prior actuarial firm.*

SCHEDULE B

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



Valuation date June 30:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 5,396,782,459	\$ 5,318,792,893				
B. Market Value End of Year	5,056,867,294	3,584,196,429				
C. Market Value Beginning of Year	5,773,156,838	5,056,867,294				
D. Cash Flow						
D1. Contributions	221,142,527	220,744,764				
D2. Benefit Payments	(708,127,920)	(817,640,554)				
D3. Administrative Expenses	(7,723,852)	(8,099,760)				
D4. Investment Expenses	<u>(5,200,312)</u>	<u>(5,331,690)</u>				
D5. Net	(499,909,557)	(610,327,240)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(216,379,987)	(862,343,625)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	433,449,984	373,795,328				
E4. Amount for Phased-In Recognition	(649,829,971)	(1,236,138,953)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(129,965,994)	(247,227,791)	0	0	0	0
F2. First Prior Year	76,241,954	(129,965,994)	(247,227,791)	0	0	0
F3. Second Prior Year	15,910,299	76,241,954	(129,965,994)	(247,227,791)	0	0
F4. Third Prior Year	(2,608,084)	15,910,299	76,241,954	(129,965,994)	(247,227,791)	0
F5. Fourth Prior Year	<u>28,891,832</u>	<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>
F6. Total Recognized Investment Gain	(11,529,993)	(287,649,616)	(285,041,532)	(300,951,831)	(377,193,785)	(247,227,791)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 5,318,792,893	\$ 4,794,611,365				
H. Difference Between Market & Actuarial Values	\$ (261,925,599)	\$ (1,210,414,936)	\$ (925,373,404)	\$ (624,421,573)	\$ (247,227,791)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 467,287,809	\$ 502,132,214				
B. Market Value End of Year	484,440,015	388,913,374				
C. Market Value Beginning of Year	510,775,499	484,440,015				
D. Cash Flow						
D1. Contributions	28,348,194	28,285,357				
D2. Benefit Payments	(33,347,504)	(38,833,245)				
D3. Administrative Expenses	(664,311)	(717,016)				
D4. Investment Expenses	<u>(460,314)</u>	<u>(467,886)</u>				
D5. Net	(6,123,935)	(11,732,790)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(20,211,549)	(83,793,851)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	39,825,950	37,575,472				
E4. Amount for Phased-In Recognition	(60,037,499)	(121,369,323)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(12,007,500)	(24,273,865)	0	0	0	0
F2. First Prior Year	8,869,886	(12,007,500)	(24,273,865)	0	0	0
F3. Second Prior Year	1,788,273	8,869,886	(12,007,500)	(24,273,865)	0	0
F4. Third Prior Year	151,597	1,788,273	8,869,886	(12,007,500)	(24,273,865)	0
F5. Fourth Prior Year	<u>2,340,134</u>	<u>151,597</u>	<u>1,788,273</u>	<u>8,869,886</u>	<u>(12,007,500)</u>	<u>(24,273,865)</u>
F6. Total Recognized Investment Gain	1,142,390	(25,471,609)	(25,623,206)	(27,411,479)	(36,281,365)	(24,273,865)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 502,132,214	\$ 502,503,287				
H. Difference Between Market & Actuarial Values	\$ (17,692,199)	\$ (113,589,913)	\$ (87,966,707)	\$ (60,555,228)	\$ (24,273,865)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 621,171,658	\$ 603,197,761				
B. Market Value End of Year	574,480,809	365,771,088				
C. Market Value Beginning of Year	663,558,360	574,480,809				
D. Cash Flow						
D1. Contributions	76,318,407	95,326,154				
D2. Benefit Payments	(122,946,356)	(145,035,850)				
D3. Administrative Expenses	(3,487,268)	(4,106,387)				
D4. Investment Expenses	<u>(391,063)</u>	<u>(370,766)</u>				
D5. Net	(50,506,280)	(54,186,849)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(38,571,271)	(154,522,872)				
E2. Assumed Rate	4.50%	4.50%				
E3. Amount for Immediate Recognition	29,123,597	25,011,541				
E4. Amount for Phased-In Recognition	(67,694,868)	(179,534,413)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(13,538,974)	(35,906,883)	0	0	0	0
F2. First Prior Year	6,195,642	(13,538,974)	(35,906,883)	0	0	0
F3. Second Prior Year	3,451,674	6,195,642	(13,538,974)	(35,906,883)	0	0
F4. Third Prior Year	(51,332)	3,451,674	6,195,642	(13,538,974)	(35,906,883)	0
F5. Fourth Prior Year	<u>7,351,776</u>	<u>(51,332)</u>	<u>3,451,674</u>	<u>6,195,642</u>	<u>(13,538,974)</u>	<u>(35,906,883)</u>
F6. Total Recognized Investment Gain	3,408,786	(39,849,873)	(39,798,541)	(43,250,215)	(49,445,857)	(35,906,883)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 603,197,761	\$ 534,172,580				
H. Difference Between Market & Actuarial Values	\$ (28,716,952)	\$ (168,401,492)	\$ (128,602,951)	\$ (85,352,736)	\$ (35,906,883)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 251,536,756	\$ 288,161,759				
B. Market Value End of Year	269,299,859	219,537,255				
C. Market Value Beginning of Year	280,885,910	269,299,859				
D. Cash Flow						
D1. Contributions	22,318,658	21,326,365				
D2. Benefit Payments	(8,069,143)	(10,303,721)				
D3. Administrative Expenses	(95,421)	(143,862)				
D4. Investment Expenses	(186,674)	(120,294)				
D5. Net	13,967,420	10,758,488				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(25,553,471)	(60,521,092)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	22,503,803	21,412,586				
E4. Amount for Phased-In Recognition	(48,057,274)	(81,933,678)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(9,611,455)	(16,386,736)	0	0	0	0
F2. First Prior Year	5,330,751	(9,611,455)	(16,386,736)	0	0	0
F3. Second Prior Year	1,622,467	5,330,751	(9,611,455)	(16,386,736)	0	0
F4. Third Prior Year	346,732	1,622,467	5,330,751	(9,611,455)	(16,386,736)	0
F5. Fourth Prior Year	2,465,285	346,732	1,622,467	5,330,751	(9,611,455)	(16,386,736)
F6. Total Recognized Investment Gain	153,780	(18,698,241)	(19,044,973)	(20,667,440)	(25,998,191)	(16,386,736)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 288,161,759	\$ 301,634,592				
H. Difference Between Market & Actuarial Values	\$ (18,861,900)	\$ (82,097,337)	\$ (63,052,364)	\$ (42,384,924)	\$ (16,386,736)	\$ 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
2010	10.5%
2011	9.5
2012	8.5
2013	7.5
2014	6.5
2015	6.0
2016	5.5
2017 and beyond	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**

2009				
	Single	Parent Plus	Couple	Family
<b>TOTAL PREMIUMS</b>				
Standard PPO	\$ 446.24	\$ 690.00	\$ 1,044.48	\$ 1,162.16
Optimum PPO	\$ 566.20	\$ 821.46	\$ 1,265.10	\$ 1,407.32
Capitol Choice	\$ 545.08	\$ 826.38	\$ 1,249.74	\$ 1,383.52

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

**MEDICARE ELIGIBLE**

Effective January 1, 2010	Self-Supporting (Used for OPEB claims cost)	Funding rates (Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 162.22	\$ 162.00
Kentucky Retirement System Health Plan - PLUS	\$ 217.41	\$ 267.00
Kentucky Retirement System Health Plan - PREMIUM	\$ 384.47	\$ 338.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.





**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 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.

*Amount*

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

*Normal Retirement Age*

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

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

*Requirement*

Eligible for Normal or Early Retirement, or any age 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):**

*Requirement*

None

*Amount*

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

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

*Requirement*

None

*Amount*

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

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

*Requirement*

None

*Amount*

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

**Post-Retirement Death Benefit:**

*Requirement*

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

*Amount*

\$5,000



**Non-Hazardous Member Contributions:**

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

5% of all creditable compensation. Interest paid on the members' accounts 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 \$11.96 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 \$17.94 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$11.96 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>2004*</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
			<b><u>Number</u></b>			
Beginning of Year	27,233	28,892	30,770	32,140	33,849	35,307
Added	2,473	2,481	2,481	2,440	2,573	3,465
Removed	814	603	1,111	731	1,115	889
End of Year	28,892	30,770	32,140	33,849	35,307	37,883
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 393,048,800	\$ 449,410,400	\$ 509,347,800	\$ 566,167,003	\$ 625,435,416	\$ 710,505,270
Added	57,329,301	56,489,600	65,942,585	65,965,990	102,305,405	110,700,043
Removed	6,092,500	5,298,200	9,123,382	6,697,577	17,235,551	8,646,243
End of Year	\$ 449,410,400	\$ 509,347,800	\$ 566,167,003	\$ 625,435,416	\$ 710,505,270	\$ 812,559,070
% Increase in Allowances	14.34%	13.34%	11.31%	10.47%	13.60%	14.36%
Average Annual Allowance	\$ 15,555	\$ 16,553	\$ 17,616	\$ 18,472	\$ 20,124	\$ 21,449

\*Reported by prior actuarial firm.



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

Year Ending June 30	2004*	2005*	2006	2007	2008	2009
	<u>Number</u>					
Beginning of Year	1,357	1,549	1,752	1,980	2,202	2,404
Added	227	234	256	241	261	339
Removed	35	31	28	19	59	95
End of Year	1,549	1,752	1,980	2,202	2,404	2,648
	<u>Annual Allowances</u>					
Beginning of Year	\$ 12,974,700	\$ 16,099,000	\$ 19,640,748	\$ 23,381,489	\$ 27,528,837	\$ 33,588,993
Added	3,070,600	3,415,500	3,929,666	4,509,381	6,565,454	5,443,628
Removed	155,000	191,000	188,829	362,129	505,250	337,120
End of Year	\$ 16,099,000	\$ 19,640,748	\$ 23,381,489	\$ 27,528,837	\$ 33,588,993	\$ 38,695,501
% Increase in Allowances	24.08%	22.00%	19.05%	17.94%	22.01%	15.20%
Average Annual Allowance	\$ 10,393	\$ 11,210	\$ 11,809	\$ 12,502	\$ 13,972	\$ 14,613

\*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	3,179	\$ 5,915,124.63	8,926	\$ 13,347,248.51	12,105	\$ 19,262,373.14
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	1,830	3,376,662.85	721	873,981.72	2,551	4,250,644.57
66-2/3% to Beneficiary	831	2,291,751.12	380	812,968.60	1,211	3,104,719.72
50% to Beneficiary	1,099	2,737,267.93	1,189	2,439,434.37	2,288	5,176,702.30
Pop-up Option	3,497	8,640,994.63	2,793	5,645,735.62	6,290	14,286,730.25
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	945	1,558,273.96	1,878	2,770,970.87	2,823	4,329,244.83
Social Security Option						
Age 62 Basic	435	1,491,202.92	988	2,407,675.11	1,423	3,898,878.03
Age 62 Survivorship	896	2,710,476.94	571	1,553,376.99	1,467	4,263,853.93
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	387	623,481.75	480	755,550.33	867	1,379,032.08
20 Years Certain & Life	394	862,678.49	438	752,564.61	832	1,615,243.10
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	90	138,416.96	313	450,751.75	403	589,168.71
PLSO 24 Month Basic	40	46,638.91	176	205,819.92	216	252,458.83
PLSO 36 Month Basic	188	155,232.00	441	324,994.12	629	480,226.12
PLSO 12 Month Survivor	122	240,880.56	105	173,499.56	227	414,380.12
PLSO 24 Month Survivor	100	140,515.22	85	116,467.55	185	256,982.77
PLSO 36 Month Survivor	269	282,196.78	170	141,565.56	439	423,762.34
<b>Total</b>	<b>14,302</b>	<b>\$ 31,211,795.65</b>	<b>19,654</b>	<b>\$ 32,772,605.19</b>	<b>33,956</b>	<b>\$ 63,984,400.84</b>



**Hazardous  
Retired Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	339	\$ 380,573.92	257	\$ 252,878.40	596	\$ 633,452.32
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	186	217,019.58	14	13,063.89	200	230,083.47
66-2/3% to Beneficiary	69	84,075.97	15	18,767.70	84	102,843.67
50% to Beneficiary	119	176,934.64	30	42,914.41	149	219,849.05
Pop-up Option	518	724,801.98	97	125,092.18	615	849,894.16
10 Years Certain	19	29,672.88	3	3,699.35	22	33,372.23
10 Years Certain & Life	95	94,705.21	40	33,975.07	135	128,680.28
Social Security Option						
Age 62 Basic	52	103,367.30	27	42,266.23	79	145,633.53
Age 62 Survivorship	120	282,691.63	15	22,760.19	135	305,451.82
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	40	47,467.81	12	10,864.12	52	58,331.93
20 Years Certain & Life	45	50,557.55	17	25,561.34	62	76,118.89
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	15	14,618.42	15	13,766.28	30	28,384.70
PLSO 24 Month Basic	16	16,990.32	12	10,773.80	28	27,764.12
PLSO 36 Month Basic	48	42,257.48	27	22,403.71	75	64,661.19
PLSO 12 Month Survivor	24	30,818.18	6	5,204.46	30	36,022.64
PLSO 24 Month Survivor	22	30,583.26	10	12,599.29	32	43,182.55
PLSO 36 Month Survivor	54	54,546.73	15	18,838.13	69	73,384.86
<b>Total</b>	<b>1,781</b>	<b>\$ 2,381,682.86</b>	<b>612</b>	<b>\$ 675,428.55</b>	<b>2,393</b>	<b>\$ 3,057,111.41</b>



**Non-Hazardous  
Beneficiary Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	4	\$ 531.04	24	\$ 23,733.62	28	\$ 24,264.66
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	233	172,116.11	1,546	1,380,049.22	1,779	1,552,165.33
66-2/3% to Beneficiary	26	23,495.28	283	229,782.15	309	253,277.43
50% to Beneficiary	89	49,788.16	462	250,935.21	551	300,723.37
Pop-up Option	75	110,686.31	352	431,060.34	427	541,746.65
10 Years Certain	53	59,837.80	71	71,790.59	124	131,628.39
10 Years Certain & Life	33	35,760.71	42	52,735.22	75	88,495.93
Social Security Option						
Age 62 Basic	0	0.00	1	1,660.76	1	1,660.76
Age 62 Survivorship	45	81,901.89	213	361,387.02	258	443,288.91
Parital Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	9	3,730.70	9	3,730.70
Dependent Child	2	578.96	3	1,068.48	5	1,647.44
Refund	1	842.82	5	5,126.22	6	5,969.04
15 Years Certain & Life	27	32,540.65	58	67,692.51	85	100,233.16
20 Years Certain & Life	36	37,287.57	78	95,312.26	114	132,599.83
5 Years Certain	50	54,251.40	39	36,306.13	89	90,557.53
PLSO 12 Month Basic	0	0.00	1	1,126.48	1	1,126.48
PLSO 24 Month Basic	1	580.49	0	0.00	1	580.49
PLSO 36 Month Basic	1	612.93	11	7,118.75	12	7,731.68
PLSO 12 Month Survivor	3	3,189.79	6	4,219.76	9	7,409.55
PLSO 24 Month Survivor	2	3,470.03	9	5,397.88	11	8,867.91
PLSO 36 Month Survivor	7	3,712.66	26	27,437.12	33	31,149.78
<b>Total</b>	<b>688</b>	<b>\$ 671,184.60</b>	<b>3,239</b>	<b>\$ 3,057,670.42</b>	<b>3,927</b>	<b>\$ 3,728,855.02</b>





**Hazardous  
Beneficiary Lives Summary**

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	0	\$ 0.00	3	\$ 352.13	3	\$ 352.13
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	7	3,070.65	93	64,911.77	100	67,982.42
66-2/3% to Beneficiary	0	0.00	10	4,464.68	10	4,464.68
50% to Beneficiary	1	442.32	17	6,778.29	18	7,220.61
Pop-up Option	5	2,458.62	33	20,704.69	38	23,163.31
10 Years Certain	1	1,733.97	12	11,241.53	13	12,975.50
10 Years Certain & Life	2	2,206.47	5	3,277.76	7	5,484.23
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	1	24.13	16	18,562.20	17	18,586.33
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	11	3,677.60	6	1,919.54	17	5,597.14
Refund	0	0.00	3	2,057.80	3	2,057.80
15 Years Certain & Life	3	1,252.58	2	939.46	5	2,192.04
20 Years Certain & Life	0	0.00	5	1,411.60	5	1,411.60
5 Years Certain	5	5,260.20	6	3,957.01	11	9,217.21
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	1	351.73	0	0.00	1	351.73
PLSO 12 Month Survivor	0	0.00	2	2,348.89	2	2,348.89
PLSO 24 Month Survivor	0	0.00	1	767.53	1	767.53
PLSO 36 Month Survivor	4	3,340.59	0	0.00	4	3,340.59
<b>Total</b>	<b>41</b>	<b>\$ 23,818.86</b>	<b>214</b>	<b>\$ 143,694.88</b>	<b>255</b>	<b>\$ 167,513.74</b>



**Non-Hazardous Members  
Retired and Beneficiary Information June 30, 2009  
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	158	\$ 4,073,602	47	\$ 519,013	83	\$ 734,095	288	\$ 5,326,710
45-49	1,118	\$ 34,648,320	117	\$ 1,424,704	71	\$ 840,299	1,306	\$ 36,913,323
50-54	3,166	\$ 107,013,760	179	\$ 2,285,111	118	\$ 1,642,452	3,463	\$ 110,941,323
55-59	5,352	\$ 172,784,378	296	\$ 3,768,511	210	\$ 3,375,275	5,858	\$ 179,928,164
60-64	6,278	\$ 171,235,849	390	\$ 4,851,106	316	\$ 5,270,483	6,984	\$ 181,357,438
65-69	5,318	\$ 105,720,507	331	\$ 3,856,443	353	\$ 5,252,267	6,002	\$ 114,829,216
70-74	3,831	\$ 64,186,268	273	\$ 3,040,340	462	\$ 6,396,038	4,566	\$ 73,622,645
75-79	2,888	\$ 40,802,939	139	\$ 1,412,097	485	\$ 6,330,786	3,512	\$ 48,545,822
80-84	2,171	\$ 28,007,583	54	\$ 475,811	507	\$ 5,984,581	2,732	\$ 34,467,974
85-89	1,263	\$ 13,153,663	27	\$ 230,811	584	\$ 4,846,281	1,874	\$ 18,230,755
90 & Over	546	\$ 4,238,095	14	\$ 83,901	738	\$ 4,073,704	1,298	\$ 8,395,701
Totals	32,089	\$ 745,864,962	1,867	\$ 21,947,848	3,927	\$ 44,746,260	37,883	\$ 812,559,070



**Hazardous Members  
Retired and Beneficiary Information June 30, 2009  
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	36	\$ 728,887	8	\$ 56,069	26	\$ 136,343	70	\$ 921,299
45-49	140	\$ 2,916,896	19	\$ 181,722	4	\$ 18,873	163	\$ 3,117,491
50-54	269	\$ 5,830,879	16	\$ 178,636	22	\$ 230,381	307	\$ 6,239,896
55-59	461	\$ 9,253,817	34	\$ 321,681	25	\$ 245,471	520	\$ 9,820,969
60-64	588	\$ 9,070,578	22	\$ 166,893	32	\$ 296,524	642	\$ 9,533,995
65-69	387	\$ 4,510,627	8	\$ 38,691	38	\$ 304,215	433	\$ 4,853,533
70-74	225	\$ 2,091,273	9	\$ 30,630	35	\$ 267,241	269	\$ 2,389,144
75-79	114	\$ 830,319	7	\$ 14,542	35	\$ 177,208	156	\$ 1,022,070
80-84	42	\$ 313,899			22	\$ 130,631	64	\$ 444,530
85-89	7	\$ 133,346			10	\$ 99,171	17	\$ 232,517
90 & Over	1	\$ 15,950			6	\$ 104,107	7	\$ 120,057
Totals	2,270	\$ 35,696,472	123	\$ 988,864	255	\$ 2,010,165	2,648	\$ 38,695,502





**Total Non-Hazardous Active Members as of June 30, 2009  
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	22								22
Avg Pay	\$19,821								\$19,821
20-24	1,857	88							1,945
Avg Pay	\$26,126	\$34,620							\$26,510
25-29	3,697	800	25						4,522
Avg Pay	\$29,347	\$33,280	\$35,494						\$30,076
30-34	2,922	2,067	544	11					5,544
Avg Pay	\$32,098	\$37,525	\$38,633	\$49,276					\$34,797
35-39	2,824	1,919	1,435	482	42				6,702
Avg Pay	\$31,180	\$39,133	\$41,970	\$43,905	\$52,553				\$36,817
40-44	1,955	1,497	1,227	973	658	97			6,407
Avg Pay	\$33,128	\$39,640	\$44,098	\$46,192	\$50,392	\$57,121			\$40,871
44-49	1,902	1,490	1,087	818	967	217	143	22	6,646
Avg Pay	\$32,623	\$38,103	\$43,935	\$45,557	\$50,915	\$53,738	\$57,591	\$63,447	\$41,284
50-54	1,594	1,344	1,093	815	770	146	92	58	5,912
Avg Pay	\$33,394	\$37,982	\$41,413	\$45,176	\$49,792	\$52,022	\$58,397	\$63,285	\$40,822
55-59	1,177	1,135	849	678	600	114	75	72	4,700
Avg Pay	\$35,299	\$38,027	\$42,023	\$44,164	\$48,014	\$51,163	\$64,774	\$64,271	\$41,373
60-64	592	662	569	421	344	78	30	30	2,726
Avg Pay	\$37,862	\$38,396	\$44,348	\$44,774	\$46,975	\$50,731	\$53,205	\$67,111	\$42,422
65-69	124	176	148	129	54	9	5	10	655
Avg Pay	\$36,965	\$38,921	\$43,709	\$43,704	\$50,973	\$74,431	\$51,497	\$60,924	\$42,488
70 & over	60	62	57	58	30		3	9	279
Avg Pay	\$39,319	\$32,726	\$35,373	\$38,843	\$51,804		\$94,888	\$84,152	\$40,335
<b>Totals</b>	<b>18,726</b>	<b>11,240</b>	<b>7,034</b>	<b>4,385</b>	<b>3,465</b>	<b>661</b>	<b>348</b>	<b>201</b>	<b>46,060</b>
<b>Avg Pay</b>	<b>\$31,520</b>	<b>\$37,985</b>	<b>\$42,459</b>	<b>\$45,021</b>	<b>\$49,701</b>	<b>\$53,338</b>	<b>\$59,208</b>	<b>\$65,044</b>	<b>\$38,090</b>



**Total Hazardous Active Members as of June 30, 2009  
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	187	4							191
Avg Pay	\$25,863	\$43,305							\$26,228
25-29	513	65	2						580
Avg Pay	\$27,602	\$31,524	\$31,014						\$28,053
30-34	355	164	26						545
Avg Pay	\$28,972	\$33,667	\$34,159						\$30,632
35-39	365	168	157	14					704
Avg Pay	\$28,524	\$35,046	\$38,489	\$41,881					\$32,568
40-44	243	129	116	125	22				635
Avg Pay	\$29,455	\$34,347	\$40,074	\$44,989	\$51,205				\$36,200
44-49	205	107	88	102	17		1		520
Avg Pay	\$30,252	\$33,892	\$39,718	\$44,247	\$49,407		\$51,444		\$36,015
50-54	160	121	79	91	22	5	1	2	481
Avg Pay	\$31,163	\$34,073	\$39,783	\$45,316	\$48,667	\$58,622	\$62,532	\$89,898	\$37,384
55-59	123	111	73	81	11	1	1	1	402
Avg Pay	\$28,723	\$35,059	\$38,286	\$42,436	\$47,501	\$54,084	\$52,224	\$63,936	\$35,695
60-64	59	56	44	67	12				238
Avg Pay	\$32,978	\$35,830	\$45,027	\$46,017	\$54,195				\$40,617
65-69	6	9	9	7					31
Avg Pay	\$30,820	\$37,489	\$40,269	\$45,046					\$38,712
70 & over	4	1	1	1					7
Avg Pay	\$27,588	\$40,092	\$36,648	\$40,104					\$32,457
<b>Totals</b>	<b>2,220</b>	<b>935</b>	<b>595</b>	<b>488</b>	<b>84</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>4,334</b>
<b>Avg Pay</b>	<b>\$28,744</b>	<b>\$34,318</b>	<b>\$39,420</b>	<b>\$44,514</b>	<b>\$50,119</b>	<b>\$57,866</b>	<b>\$55,400</b>	<b>\$81,244</b>	<b>\$33,697</b>



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

**Prepared as of June 30, 2009**





November 9, 2009

## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

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, 2010. The date of the valuation was June 30, 2009.

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

S:\Kentucky Retirement Systems\2009\Valuation\Reports\CERS Pension Val Report.doc

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

**PREPARED AS OF JUNE 30, 2009**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2009, 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	
	6/30/2009	6/30/2008	6/30/2009	6/30/2008	6/30/2009	6/30/2008
<b>Contributions for next fiscal year:</b>						
Retirement	10.03%	8.62%	16.79%	16.11%		
Insurance	<u>9.78</u>	<u>12.29</u>	<u>23.27</u>	<u>27.25</u>	N/A	N/A
Total	19.81%	20.91%	40.06%	43.36%		
<b>Funded status as of valuation date:</b>						
<b>Retirement</b>						
Actuarial accrued liability	\$7,912,913,512	\$7,304,217,691	\$2,578,444,600	\$2,403,122,095	\$10,491,358,112	\$9,707,339,786
Actuarial value of assets	\$5,650,789,991	\$5,731,502,438	\$1,751,487,540	\$1,750,867,373	\$7,402,277,531	\$7,482,369,811
Unfunded liability on actuarial value of assets	\$2,262,123,521	\$1,572,715,253	\$826,957,060	\$652,254,722	\$3,089,080,581	\$2,224,969,975
Funded ratio on actuarial value of assets	71.41%	78.47%	67.93%	72.86%	70.56%	77.08%
Market value of assets	\$4,330,593,934	\$5,431,735,605	\$1,320,522,868	\$1,644,983,243	\$5,651,116,802	\$7,076,718,848
Unfunded liability on market value of assets	\$3,582,319,578	\$1,872,482,086	\$1,257,921,732	\$758,138,852	\$4,840,241,310	\$2,630,620,938
Funded ratio on market value of assets	54.73%	74.36%	51.21%	68.45%	53.86%	72.90%
<b>Insurance</b>						
Actuarial accrued liability	\$3,070,386,018	\$3,583,193,466	\$1,593,548,263	\$1,769,782,957	\$4,663,934,281	\$5,352,976,423
Actuarial value of assets	\$1,216,631,769	\$1,168,883,170	\$651,130,782	\$613,526,319	\$1,867,762,551	\$1,782,409,489
Unfunded liability on actuarial value of assets	\$1,853,754,249	\$2,414,310,296	\$942,417,481	\$1,156,256,638	\$2,796,171,730	\$3,570,566,934
Funded ratio on actuarial value of assets	39.62%	32.62%	40.86%	34.67%	40.05%	33.30%
Market value of assets	\$894,905,841	\$1,105,944,178	\$483,269,862	\$576,414,457	\$1,378,175,703	\$1,682,358,635
Unfunded liability on market value of assets	\$2,175,480,177	\$2,477,249,288	\$1,110,278,401	\$1,193,368,500	\$3,285,758,578	\$3,670,617,788
Funded ratio on market value of assets	29.15%	30.86%	30.33%	32.57%	29.55%	31.43%
<b>Demographic data as of valuation date:</b>						
Number of retired participants and beneficiaries	39,756	37,579	5,808	5,422	45,564	43,001
Number of vested former members	9,182	8,693	549	487	9,731	9,180
Number of former members due a refund	51,093	49,062	1,973	1,889	53,066	50,951
Number of active members	83,724	85,221	9,757	10,173	93,481	95,394
Total salary	\$2,183,611,848	\$2,166,612,648	\$469,315,464	\$474,241,332	\$2,652,927,312	\$2,640,853,980
Average salary	\$26,081	\$25,423	\$48,100	\$46,618	\$28,379	\$27,684





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 changes in benefit provisions since the last valuation. On June 27, 2008 House Bill 1, the Pension Reform legislation, was signed by Governor Beshear. This law is a comprehensive pension reform that will significantly impact retirement benefits for employees who begin participating with the Kentucky Retirement Systems on or after September 1, 2008. The summary of main benefit and contribution provisions can be found in Schedule D. Most provisions of HB 1 apply to employees hired on or after September 1, 2008, including the following:
  - A tiered structure for benefit factors
  - Additional nonrefundable 1% employee contribution to a health insurance account
  - New retirement eligibility requirements
  - Different rules on computing final compensation for retirement
  - Different definition of hazardous duty positions
  - Different medical insurance eligibility
  - Different post-retirement medical insurance benefit cost-of-living increase
5. An additional benefit change beyond HB 1 was the implementation of an Employer Group Waiver Plan contracting directly with CMS to provide a Medicare Part D prescription drug plan. This change resulted in a significant decrease in the insurance liabilities in this valuation.
6. There were changes in actuarial assumptions since the last valuation. In August 2009, the Board approved the Kentucky Retirement Systems Experience Study for the Three-Year Period Ending June 30, 2008. The actuarial assumptions and methods employed can be found in Schedule C.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.



**SECTION II – MEMBERSHIP DATA**

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System’s office. The following table summarizes the membership of the system as of June 30, 2009 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	83,724	\$2,183,611,848	\$26,081	46.2	8.6
Hazardous	9,757	469,315,464	48,100	38.4	8.8
Total in CERS	93,481	\$2,652,927,312	\$28,379	45.4	8.6

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
6/30/2004	80,922	\$1,826,870,880	\$22,576	3.4%
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

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

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2004	9,349	\$392,562,624	\$41,990	4.1%
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



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	33,081	\$382,077,963	\$11,550	68.2
Disability	3,048	30,159,608	9,895	63.2
Beneficiary	3,627	27,823,847	7,671	68.1
Total in CERS	39,756	\$440,061,418	\$11,069	67.8

#### Hazardous Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retiree	4,750	\$125,247,199	\$26,368	59.4
Disability	403	6,380,290	15,832	52.8
Beneficiary	655	8,259,262	12,610	50.0
Total in CERS	5,808	\$139,886,751	\$24,085	57.8

This valuation also includes 62,797 inactive members (60,275 Non-Hazardous and 2,522 Hazardous; of which 9,182 Non-Hazardous are vested and 549 Hazardous are vested).





**SECTION III – ASSETS**

1. As of June 30, 2009 the total market value of assets amounted to \$7,029,292,505 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, 2009**

<b>Member Group</b>	<b>Retirement</b>	<b>Insurance</b>	<b>CERS Total</b>
Non-Hazardous	\$4,330,593,934	\$894,905,841	\$5,225,499,775
Hazardous	<u>1,320,522,868</u>	<u>483,269,862</u>	<u>1,803,792,730</u>
Total	\$5,651,116,802	\$1,378,175,703	\$7,029,292,505

2. The five-year smoothed market related actuarial value of assets used for the current valuation was \$9,270,040,082. Schedule B shows the development of the actuarial value of assets as of June 30, 2009. The following table shows the actuarial value of assets allocated among member groups.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	<b>JUNE 30, 2009</b>	<b>JUNE 30, 2008</b>
<b>Retirement</b>		
Non-Hazardous	\$ 5,650,789,991	\$ 5,731,502,438
Hazardous	<u>1,751,487,540</u>	<u>1,750,867,373</u>
Total	\$ 7,402,277,531	\$ 7,482,369,811
<b>Insurance</b>		
Non-Hazardous	\$ 1,216,631,769	\$ 1,168,883,170
Hazardous	<u>651,130,782</u>	<u>613,526,319</u>
Total	\$ 1,867,762,551	\$ 1,782,409,489
<b>KERS Total</b>		
Non-Hazardous	\$ 6,867,421,760	\$ 6,900,385,608
Hazardous	<u>2,402,618,322</u>	<u>2,364,393,692</u>
Total	\$ 9,270,040,082	\$ 9,264,779,300



## **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, 2009. 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 \$12,734,984,501, of which \$5,779,815,149 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$302,930,540 is for the prospective benefits payable on account of inactive members and \$6,652,238,812 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 \$7,402,277,531 as of June 30, 2009. The difference of \$5,332,706,970 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, \$1,252,655,929 is the present value of future contributions expected to be made by members, and the balance of \$4,080,051,041 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 3.97% of payroll for non-hazardous members and 7.30% 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 \$990,970,460. When this amount is subtracted from \$4,080,051,041, which is the present value of the total future contributions to be made by the employers, there remains \$3,089,080,581 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 5.43% 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 9.23% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$2,262,123,521 for non-hazardous members and \$826,957,060 for hazardous members over 28 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 0.63% 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 \$6,098,247,744, of which \$1,967,663,986 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$237,018,603 is for the prospective benefits payable on account of inactive members and \$3,893,565,155 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 \$1,867,762,551 as of June 30, 2009. The difference of \$4,230,485,193 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, \$9,026,579 is the present value of future contributions expected to be made by members, and the balance of \$4,221,458,614 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 5.14% of payroll for non-hazardous members and 12.66% 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 \$1,425,286,884. When this amount is subtracted from \$4,221,458,614, which is the present value of the total future contributions to be made by the employers, there remains \$2,796,171,730 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 4.45% 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 10.52% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$1,853,754,249 for non-hazardous members and \$942,417,481 for hazardous members over 28 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 0.19% of payroll for non-hazardous employees and 0.09% 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, 2009 is shown below (\$ millions).

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

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/08	\$ 1,572.7	\$ 652.3	\$ 2,225.0
(2)	Normal cost from last valuation	83.4	37.9	121.3
(3)	Employer contributions	179.3	78.2	257.5
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875	121.4	50.5	171.9
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 1,598.2	\$ 662.5	\$ 2,260.7
(6)	Change due to plan amendments	0.0	0.0	0.0
(7)	Change due to new actuarial assumption or methods	43.5	(3.7)	39.8
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 1,641.7	\$ 658.8	\$ 2,300.5
(9)	Actual UAAL as of 6/30/09	\$ 2,262.1	\$ 827.0	\$ 3,089.1
(10)	Gain/(loss): (8) - (9)	\$ (620.4)	\$ (168.2)	\$ (788.6)
(11)	Accrued liabilities as of 6/30/08	\$ 7,304.2	\$ 2,403.1	\$ 9,707.3
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(8.5)%	(7.0)%	(8.1)%

\*Unfunded actuarial accrued liability.



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

		Non-Hazardous Group	Hazardous Group	Total
(1)	UAAL* as of 6/30/08	\$ 2,414.3	\$ 1,156.3	\$ 3,570.6
(2)	Normal cost from last valuation	124.6	62.6	187.2
(3)	Expected employer contributions	<u>262.9</u>	<u>128.8</u>	<u>391.7</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .0775	176.4	84.5	260.9
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 2,452.4	\$ 1,174.6	\$ 3,627.0
(6)	Change due to plan amendments, including adoption of the Employer Group Waiver Plan	(478.1)	(116.6)	(594.7)
(7)	Change due to new actuarial assumption or methods	(301.3)	(167.6)	(468.9)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 1,673.0	\$ 890.4	\$ 2,563.4
(9)	Actual UAAL as of 6/30/09	\$ 1,853.8	\$ 942.4	\$ 2,796.2
(10)	Gain/(loss): (8) - (9)	\$ (180.8)	\$ (52.0)	\$ (232.8)
(11)	Accrued liabilities as of 6/30/08	\$ 3,583.2	\$ 1,769.8	\$ 5,353.0
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(5.0)%	(2.9)%	(4.3)%

*\*Unfunded actuarial accrued liability.*



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

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (117.8)	\$ (55.5)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3.0)	9.4
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(2.7)	(6.3)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	85.4	24.6
<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.	11.1	166.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(12.3)	(12.4)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(344.1)	(72.4)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	3.6	31.8
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(240.6)</u>	<u>(266.0)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (620.4)	\$ (180.8)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>(43.5)</u>	<u>779.4</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (663.9)	\$ 598.6





**HAZARDOUS CERS MEMBERS  
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (23.3)	\$ (1.9)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.8)	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.	0.4	0.3
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	42.5	29.6
<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.	(3.7)	77.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(5.0)	(7.1)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(112.5)	(38.6)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	(3.5)	13.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(62.3)</u>	<u>(125.5)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (168.2)	\$ (52.0)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>3.7</u>	<u>284.2</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (164.5)	\$ 232.2



**TOTAL CERS MEMBERS  
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	Retirement \$ Gain (or Loss) For Year Ending 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (141.1)	\$ (57.4)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3.8)	10.2
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(2.3)	(6.0)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	127.9	54.2
<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.	7.4	243.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(17.3)	(19.5)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(456.6)	(111.0)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	0.1	45.2
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(302.9)</u>	<u>(391.5)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (788.6)	\$ (232.8)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>(39.8)</u>	<u>1,063.6</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (828.4)	\$ 830.8



**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 2010/2011 fiscal year.

**Required Contribution Rates  
Non-Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 178,072,016	7.96%
(2) Disability benefits	14,603,058	0.66
(3) Survivor benefits	3,235,134	0.14
(4) Total	\$ 195,910,208	8.97%
B. Member Contributions	\$ 109,180,592	5.00%
C. Employer Normal Cost: [A(4) - B]	\$ 86,729,616	3.97%
D. Administrative Expenses	\$ 13,756,755	0.63%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/08 Valuation:	\$ 90,071,443	4.16%
(2) Change due to:		
a. Active decrements	\$ 1,994,276	0.09%
b. Pay increases	(580,508)	(0.03)
c. Retiree mortality	(195,827)	(0.01)
d. Investment return	18,025,547	0.83
e. COLA	5,285,203	0.24
f. Assumption Change	2,280,671	0.10
g. Other	1,617,451	0.07
h. Total Change	\$ 28,426,814	1.27%
(3) UAAL Contribution Based on 6/30/09 Valuation: [E(1) +E(2)h]	\$ 118,498,257	5.43%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 218,984,628	10.03%

\* Based on 29 year amortization of the UAAL from June 30, 2008 and 28 years from June 30, 2009





**Required Contribution Rates  
Hazardous Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 66,301,268	14.06%
(2) Disability benefits	4,562,740	0.95
(3) Survivor benefits	937,593	0.20
(4) Total	<u>\$ 71,801,601</u>	<u>15.30%</u>
B. Member Contributions	\$ 37,545,237	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 34,256,364	7.30%
D. Administrative Expenses	\$ 1,220,220	0.26%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/08 Valuation:	\$ 37,355,474	7.88%
(2) Change due to:		
a. Active decrements	\$ (985,183)	-0.21%
b. Pay increases	191,381	0.04
c. Retiree mortality	181,414	0.04
d. Investment return	5,894,197	1.26
e. COLA	2,414,100	0.51
f. Assumption Change	(195,369)	(0.04)
g. Other	(1,536,996)	(0.35)
h. Total Change	<u>\$ 5,963,544</u>	<u>1.27%</u>
(3) UAAL Contribution Based on 6/30/09 Valuation: [E(1) +E(2)h]	\$ 43,319,018	9.23%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	<u>\$ 78,795,602</u>	<u>16.79%</u>

\* Based on 29 year amortization of the UAAL from June 30, 2008 and 28 years from June 30, 2009



**Required Contribution Rates  
Non-Hazardous Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost:	\$ 113,145,520	5.18%
B. Member Contributions*	\$ 873,445	0.04%
C. Employer Normal Cost: [A - B]	\$ 112,272,075	5.14%
D. Administrative Expenses	\$ 4,050,960	0.19%
E. Unfunded Actuarial Accrued Liability**:	\$ 97,106,389	4.45%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 213,429,424	9.78%

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

*\*\* Based on 28 year amortization of the UAAL from June 30, 2009*

**Required Contribution Rates  
Hazardous Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost:	\$ 59,554,930	12.69%
B. Member Contributions*	\$ 140,795	0.03%
C. Employer Normal Cost: [A - B]	\$ 59,414,135	12.66%
D. Administrative Expenses	\$ 445,277	0.09%
E. Unfunded Actuarial Accrued Liability**:	\$ 49,367,255	10.52%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 109,226,667	23.27%

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

*\*\* Based on 28 year amortization of the UAAL from June 30, 2009*



**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, 2009**

GROUP	NUMBER		
	Non-Hazardous	Hazardous	Total
Retirees and beneficiaries currently receiving benefits	39,756	5,808	45,564
Terminated employees entitled to benefits but not yet receiving benefits	60,275	2,522	62,797
Active Members	<u>83,724</u>	<u>9,757</u>	<u>93,481</u>
Total	183,755	18,087	201,842

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>						
6/30/2004	\$ 5,187,851,530	\$ 4,936,459,488	\$ (251,392,042)	105.1%	\$ 1,826,870,880	(13.8)%
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	83.5	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
<b>Hazardous Members</b>						
6/30/2004	\$ 1,457,612,042	\$ 1,640,830,120	\$ 183,218,078	88.8%	\$ 392,562,624	46.7%
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
<b>Total CERS Members</b>						
6/30/2004	\$ 6,645,463,572	\$ 6,577,289,608	\$ (68,173,964)	101.0%	\$ 2,219,433,504	(3.1)%
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



**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>						
6/30/2004	\$ 585,399,072	\$ 2,438,734,696	\$ 1,853,335,624	24.0%	\$ 1,826,870,880	101.5%
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
<b>Hazardous Members</b>						
6/30/2004	\$ 310,578,162	\$ 1,025,684,477	\$ 715,106,315	30.3%	\$ 392,562,624	182.2%
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
<b>Total CERS Members</b>						
6/30/2004	\$ 895,977,234	\$ 3,464,419,173	\$ 2,568,441,939	25.9%	\$ 2,219,433,504	115.7%
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2009. Additional information as of the latest actuarial valuation follows.

### Retirement Benefits

	Non-Hazardous Members	Hazardous Members
Valuation date	6/30/2009	6/30/2009
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	28 years	28 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	6/30/2009	6/30/2009
Actuarial cost method	Entry Age	Entry Age
Amortization	Level percent Closed	Level percent Closed
Remaining amortization period	28 years	28 years
Asset valuation method	5 year smoothed Market	5 year smoothed Market
Medical Trend Assumption	10.5% - 5.0%	10.5% - 5.0%
Year Ultimate Trend	2017	2017
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, 2009 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2008. 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, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 5,650,789,991	\$ 5,731,502,438
Prospective contributions		
Member contributions	\$ 922,791,578	\$ 905,496,624
Employer normal contributions	693,386,420	697,404,856
Unfunded accrued liability contributions	<u>2,262,123,521</u>	<u>1,572,715,253</u>
Total prospective contributions	<u>\$ 3,878,301,519</u>	<u>\$ 3,175,616,733</u>
Total assets	<u>\$ 9,529,091,510</u>	<u>\$ 8,907,119,171</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 4,265,165,380	\$ 3,801,445,603
Present value of benefits payable on account of active members	4,986,608,408	4,848,351,752
Present value of benefits payable on account of inactive members	<u>277,317,722</u>	<u>257,321,816</u>
Total liabilities	<u>\$ 9,529,091,510</u>	<u>\$ 8,907,119,171</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,751,487,540	\$ 1,750,867,373
Prospective contributions		
Member contributions	\$ 329,864,351	\$ 333,087,926
Employer normal contributions	297,584,040	332,536,184
Unfunded accrued liability contributions	<u>826,957,060</u>	<u>652,254,722</u>
Total prospective contributions	<u>\$ 1,454,405,451</u>	<u>\$ 1,317,878,832</u>
 Total assets	 <u>\$ 3,205,892,991</u>	 <u>\$ 3,068,746,205</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,514,649,769	\$ 1,385,123,873
 Present value of benefits payable on account of active members	 1,665,630,404	 1,661,763,796
 Present value of benefits payable on account of inactive members	 <u>25,612,818</u>	 <u>21,858,536</u>
 Total liabilities	 <u>\$ 3,205,892,991</u>	 <u>\$ 3,068,746,205</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 7,402,277,531	\$ 7,482,369,811
Prospective contributions		
Member contributions	\$ 1,252,655,929	\$ 1,238,584,550
Employer normal contributions	990,970,460	1,029,941,040
Unfunded accrued liability contributions	<u>3,089,080,581</u>	<u>2,224,969,975</u>
Total prospective contributions	<u>\$ 5,332,706,970</u>	<u>\$ 4,493,495,565</u>
 Total assets	 <u>\$ 12,734,984,501</u>	 <u>\$ 11,975,865,376</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 5,779,815,149	\$ 5,186,569,476
 Present value of benefits payable on account of active members	 6,652,238,812	 6,510,115,548
 Present value of benefits payable on account of inactive members	 <u>302,930,540</u>	 <u>279,180,352</u>
 Total liabilities	 <u>\$ 12,734,984,501</u>	 <u>\$ 11,975,865,376</u>





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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,216,631,769	\$ 1,168,883,170
Prospective contributions		
Member contributions	\$ 7,431,458	\$ 0
Employer normal contributions	934,328,870	864,456,661
Unfunded accrued liability contributions	<u>1,853,754,249</u>	<u>2,414,310,296</u>
Total prospective contributions	<u>\$ 2,795,514,577</u>	<u>\$ 3,278,766,957</u>
 Total assets	 <u>\$ 4,012,146,346</u>	 <u>\$ 4,447,650,127</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,269,509,766	\$ 1,291,138,217
Present value of benefits payable on account of active members	2,533,363,593	2,926,199,853
Present value of benefits payable on account of inactive members	<u>209,272,987</u>	<u>230,312,057</u>
 Total liabilities	 <u>\$ 4,012,146,346</u>	 <u>\$ 4,447,650,127</u>



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

	<b>June 30, 2009</b>	<b>June 30, 2008</b>
<b>ASSETS</b>		
Current actuarial value of assets	\$ 651,130,782	\$ 613,526,319
Prospective contributions		
Member contributions	\$ 1,595,121	\$ 0
Employer normal contributions	490,958,014	455,898,995
Unfunded accrued liability contributions	<u>942,417,481</u>	<u>1,156,256,638</u>
Total prospective contributions	<u>\$ 1,434,970,616</u>	<u>\$ 1,612,155,633</u>
Total assets	<u>\$ 2,086,101,398</u>	<u>\$ 2,225,681,952</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 698,154,220	\$ 693,962,620
Present value of benefits payable on account of active members	1,360,201,562	1,503,246,768
Present value of benefits payable on account of inactive members	<u>27,745,616</u>	<u>28,472,564</u>
Total liabilities	<u>\$ 2,086,101,398</u>	<u>\$ 2,225,681,952</u>



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

	June 30, 2009	June 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 1,867,762,551	\$ 1,782,409,489
Prospective contributions		
Member contributions	\$ 9,026,579	\$ 0
Employer normal contributions	1,425,286,884	1,320,355,656
Unfunded accrued liability contributions	<u>2,796,171,730</u>	<u>3,570,566,934</u>
Total prospective contributions	<u>\$ 4,230,485,193</u>	<u>\$ 4,890,922,590</u>
 Total assets	 <u>\$ 6,098,247,744</u>	 <u>\$ 6,673,332,079</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 1,967,663,986	\$ 1,985,100,837
 Present value of benefits payable on account of active members	 3,893,565,155	 4,429,446,621
 Present value of benefits payable on account of inactive members	 <u>237,018,603</u>	 <u>258,784,621</u>
 Total liabilities	 <u>\$ 6,098,247,744</u>	 <u>\$ 6,673,332,079</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)				
6/30/2004*	\$ 814,908,627	\$ 2,478,195,080	\$ 1,643,355,781	\$ 5,187,851,530	100.0%	100.0%	115.3%
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

\*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)				
6/30/2004*	\$ 256,366,204	\$ 851,354,443	\$ 533,109,473	\$ 1,457,612,042	100.0%	100.0%	65.6%
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

\*Reported by prior actuarial firm.



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

Valuation Date	Aggregate Accrued Liabilities For				Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)			(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)					
6/30/2004*	\$ 0	\$ 955,930,091	\$ 1,482,804,605	\$ 585,399,072	100.0%	61.2%	0.0%	
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	

\*Reported by prior actuarial firm.

**Solvency Test  
Insurance Benefits  
Hazardous CERS Members**

Valuation Date	Aggregate Accrued Liabilities For				Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)			(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)					
6/30/2004*	\$ 0	\$ 450,288,687	\$ 575,395,790	\$ 310,578,162	100.0%	69.0%	0.0%	
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	

\*Reported by prior actuarial firm.





**SCHEDULE B**

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

Valuation date June 30:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 5,467,824,480	\$ 5,731,502,438				
B. Market Value End of Year	5,431,735,605	4,330,593,934				
C. Market Value Beginning of Year	5,812,935,251	5,431,735,605				
D. Cash Flow						
D1. Contributions	275,938,785	301,802,344				
D2. Benefit Payments	(415,881,616)	(462,022,378)				
D3. Administrative Expenses	(13,238,353)	(13,832,849)				
D4. Investment Expenses	<u>(5,136,459)</u>	<u>(5,616,856)</u>				
D5. Net	(158,317,643)	(179,669,739)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(222,882,003)	(921,471,932)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	449,703,170	419,831,816				
E4. Amount for Phased-In Recognition	(672,585,173)	(1,341,303,748)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(134,517,035)	(268,260,750)	0	0	0	0
F2. First Prior Year	73,558,421	(134,517,035)	(268,260,750)	0	0	0
F3. Second Prior Year	9,281,202	73,558,421	(134,517,035)	(268,260,750)	0	0
F4. Third Prior Year	(936,362)	9,281,202	73,558,421	(134,517,035)	(268,260,749)	0
F5. Fourth Prior Year	<u>24,906,205</u>	<u>(936,362)</u>	<u>9,281,202</u>	<u>73,558,421</u>	<u>(134,517,035)</u>	<u>(268,260,749)</u>
F6. Total Recognized Investment Gain	(27,707,569)	(320,874,524)	(319,938,162)	(329,219,364)	(402,777,784)	(268,260,749)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 5,731,502,438	\$ 5,650,789,991				
H. Difference Between Market & Actuarial Values	\$ (299,766,833)	\$ (1,320,196,057)	\$ (1,000,257,895)	\$ (671,038,531)	\$ (268,260,749)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 1,639,288,924	\$ 1,750,867,373				
B. Market Value End of Year	1,644,983,243	1,320,522,868				
C. Market Value Beginning of Year	1,754,934,764	1,644,983,243				
D. Cash Flow						
D1. Contributions	116,415,000	120,733,655				
D2. Benefit Payments	(127,831,609)	(141,246,089)				
D3. Administrative Expenses	(1,143,313)	(1,198,503)				
D4. Investment Expenses	(1,603,610)	(1,540,413)				
D5. Net	(14,163,532)	(23,251,350)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(95,787,989)	(301,209,025)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	137,124,357	128,185,316				
E4. Amount for Phased-In Recognition	(232,912,346)	(429,394,341)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(46,582,469)	(85,878,868)	0	0	0	0
F2. First Prior Year	24,437,228	(46,582,469)	(85,878,868)	0	0	0
F3. Second Prior Year	3,423,753	24,437,228	(46,582,469)	(85,878,868)	0	0
F4. Third Prior Year	286,557	3,423,753	24,437,228	(46,582,469)	(85,878,868)	0
F5. Fourth Prior Year	7,052,555	286,557	3,423,753	24,437,228	(46,582,469)	(85,878,868)
F6. Total Recognized Investment Gain	(11,382,376)	(104,313,799)	(104,600,356)	(108,024,109)	(132,461,337)	(85,878,868)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,750,867,373	\$ 1,751,487,540				
H. Difference Between Market & Actuarial Values	\$ (105,884,130)	\$ (430,964,672)	\$ (326,364,316)	\$ (218,340,207)	\$ (85,878,868)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 960,285,900	\$ 1,168,883,170				
B. Market Value End of Year	1,105,944,178	894,905,841				
C. Market Value Beginning of Year	1,084,042,781	1,105,944,178				
D. Cash Flow						
D1. Contributions	217,217,750	146,156,476				
D2. Benefit Payments	(95,966,011)	(108,995,559)				
D3. Administrative Expenses	(3,424,785)	(4,050,960)				
D4. Investment Expenses	<u>(744,254)</u>	<u>(554,766)</u>				
D5. Net	117,082,700	32,555,191				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(95,181,303)	(243,593,528)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	89,323,364	87,548,451				
E4. Amount for Phased-In Recognition	(184,504,667)	(331,141,979)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(36,900,933)	(66,228,396)	0	0	0	0
F2. First Prior Year	24,311,839	(36,900,933)	(66,228,396)	0	0	0
F3. Second Prior Year	5,266,783	24,311,839	(36,900,933)	(66,228,395)	0	0
F4. Third Prior Year	1,195,664	5,266,783	24,311,839	(36,900,933)	(66,228,395)	0
F5. Fourth Prior Year	<u>8,317,853</u>	<u>1,195,664</u>	<u>5,266,780</u>	<u>24,311,837</u>	<u>(36,900,933)</u>	<u>(66,228,395)</u>
F6. Total Recognized Investment Gain	2,191,206	(72,355,043)	(73,550,710)	(78,817,491)	(103,129,328)	(66,228,395)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 1,168,883,170	\$ 1,216,631,769				
H. Difference Between Market & Actuarial Values	\$ (62,938,992)	\$ (321,725,928)	\$ (248,175,218)	\$ (169,357,727)	\$ (66,228,395)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 512,926,549	\$ 613,526,319				
B. Market Value End of Year	576,414,457	483,269,862				
C. Market Value Beginning of Year	570,155,702	576,414,457				
D. Cash Flow						
D1. Contributions	90,754,757	71,778,158				
D2. Benefit Payments	(35,603,224)	(41,016,544)				
D3. Administrative Expenses	(364,362)	(445,277)				
D4. Investment Expenses	<u>(388,529)</u>	<u>(278,278)</u>				
D5. Net	54,398,642	30,038,059				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(48,139,887)	(123,182,654)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	46,698,599	46,125,156				
E4. Amount for Phased-In Recognition	(94,838,486)	(169,307,810)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(18,967,697)	(33,861,562)	0	0	0	0
F2. First Prior Year	10,834,617	(18,967,697)	(33,861,562)	0	0	0
F3. Second Prior Year	2,819,186	10,834,617	(18,967,697)	(33,861,562)	0	0
F4. Third Prior Year	616,704	2,819,186	10,834,617	(18,967,697)	(33,861,562)	0
F5. Fourth Prior Year	<u>4,199,719</u>	<u>616,704</u>	<u>2,819,186</u>	<u>10,834,617</u>	<u>(18,967,697)</u>	<u>(33,861,562)</u>
F6. Total Recognized Investment Gain	(497,471)	(38,558,752)	(39,175,456)	(41,994,642)	(52,829,259)	(33,861,562)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 613,526,319	\$ 651,130,782				
H. Difference Between Market & Actuarial Values	\$ (37,111,862)	\$ (167,860,920)	\$ (128,685,464)	\$ (86,690,822)	\$ (33,861,562)	\$ 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			Disability	Service Retirement**
		Male	Female			
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
2010	10.5%
2011	9.5
2012	8.5
2013	7.5
2014	6.5
2015	6.0
2016	5.5
2017 and beyond	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**

2009					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 446.24	\$ 690.00	\$ 1,044.48	\$ 1,162.16	
Optimum PPO	\$ 566.20	\$ 821.46	\$ 1,265.10	\$ 1,407.32	
Capitol Choice	\$ 545.08	\$ 826.38	\$ 1,249.74	\$ 1,383.52	

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	

**MEDICARE ELIGIBLE**

Effective January 1, 2010	Self-Supporting	Funding rates
	(Used for OPEB claims cost)	(Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 162.22	\$ 162.00
Kentucky Retirement System Health Plan - PLUS	\$ 217.41	\$ 267.00
Kentucky Retirement System Health Plan - PREMIUM	\$ 384.47	\$ 338.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.



**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 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.

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

*Normal Retirement Age* 65 for non-hazardous members and 60 for hazardous members.

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

*Requirement* Eligible for Normal or Early Retirement, or any age 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):**

*Requirement* None

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

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

*Requirement* None

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

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

*Requirement* None

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

**Post-Retirement Death Benefit:**

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

*Amount* \$5,000



**Non-Hazardous Member Contributions:**

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

5% of all creditable compensation. Interest paid on the members' accounts 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 \$18.21 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 \$18.21 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.14 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>2004*</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
			<b><u>Number</u></b>			
Beginning of Year	27,092	29,129	31,347	33,102	35,564	37,579
Added	2,805	2,808	2,782	3,244	3,366	3,060
Removed	768	590	1,027	782	1,351	883
End of Year	29,129	31,347	33,102	35,564	37,579	39,756
			<b><u>Annual Allowances</u></b>			
Beginning of Year	N/A	\$ 247,534,300	\$ 279,590,300	\$ 308,269,651	\$ 348,712,020	\$ 393,757,510
Added	\$ 28,181,800	\$ 30,397,300	34,559,599	44,888,509	56,376,123	51,679,136
Removed	3,587,800	3,161,200	5,880,248	4,446,140	11,330,633	5,375,228
End of Year	\$ 247,534,300	\$ 279,590,300	\$ 308,269,651	\$ 348,712,020	\$ 393,757,510	\$ 440,061,418
% Increase in Allowances	12.59%	12.95%	10.26%	13.12%	12.92%	11.76%
Average Annual Allowance	\$ 8,498	\$ 8,919	\$ 9,313	\$ 9,805	\$ 10,478	\$ 11,069

\*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>2004*</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
			<b><u>Number</u></b>			
Beginning of Year	3,737	4,005	4,361	4,712	5,159	5,422
Added	343	403	427	500	469	650
Removed	75	47	76	53	206	264
End of Year	4,005	4,361	4,712	5,159	5,422	5,808
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 72,322,200	\$ 79,559,200	\$ 89,224,700	\$ 100,290,052	\$ 113,735,850	\$ 127,477,109
Added	6,712,500	\$ 8,536,100	11,876,922	14,207,939	16,794,618	13,030,426
Removed	605,100	502,700	811,570	762,141	3,053,359	620,784
End of Year	\$ 79,559,200	\$ 89,224,700	\$ 100,290,052	\$ 113,735,850	\$ 127,477,109	\$ 139,886,751
% Increase in Allowances	10.01%	12.15%	12.40%	13.41%	12.08%	9.73%
Average Annual Allowance	\$ 19,865	\$ 20,460	\$ 21,284	\$ 22,046	\$ 23,511	\$ 24,085

\*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	3,382	\$ 3,291,833.01	11,638	\$ 7,891,883.14	15,020	\$ 11,183,716.15
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	1,993	2,159,482.27	870	521,418.80	2,863	2,680,901.07
66-2/3% to Beneficiary	600	1,039,018.11	333	370,678.55	933	1,409,696.66
50% to Beneficiary	874	1,298,944.56	938	1,011,411.23	1,812	2,310,355.79
Pop-up Option	2,950	4,523,374.18	2,254	2,361,834.17	5,204	6,885,208.35
10 Years Certain	0	0.00	0	0.00	0	0.00
10 Years Certain & Life	1,159	1,038,971.16	2,488	1,717,460.79	3,647	2,756,431.95
Social Security Option						
Age 62 Basic	230	666,359.35	452	653,745.13	682	1,320,104.48
Age 62 Survivorship	549	1,562,726.22	271	448,503.91	820	2,011,230.13
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	511	479,086.09	533	392,979.63	1,044	872,065.72
20 Years Certain & Life	364	469,056.71	470	372,575.08	834	841,631.79
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	133	135,211.50	424	331,283.65	557	466,495.15
PLSO 24 Month Basic	77	49,166.57	272	199,610.01	349	248,776.58
PLSO 36 Month Basic	321	153,217.67	782	341,065.07	1,103	494,282.74
PLSO 12 Month Survivor	170	197,375.69	103	95,546.73	273	292,922.42
PLSO 24 Month Survivor	116	111,824.74	75	50,747.84	191	162,572.58
PLSO 36 Month Survivor	486	280,132.83	311	136,606.55	797	416,739.38
<b>Total</b>	<b>13,915</b>	<b>\$ 17,455,780.66</b>	<b>22,214</b>	<b>\$ 16,897,350.28</b>	<b>36,129</b>	<b>\$ 34,353,130.94</b>

**Hazardous  
Retired Lives Summary**



	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	635	\$ 1,228,750.33	189	\$ 296,454.81	824	\$ 1,525,205.14
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	496	965,888.95	22	20,248.96	518	986,137.91
66-2/3% to Beneficiary	209	517,376.79	5	13,841.04	214	531,217.83
50% to Beneficiary	347	787,323.76	18	31,460.11	365	818,783.87
Pop-up Option	1,893	4,589,419.10	71	133,757.12	1,964	4,723,176.22
10 Years Certain	24	37,188.56	3	3,804.59	27	40,993.15
10 Years Certain & Life	166	329,822.38	37	67,450.22	203	397,272.60
Social Security Option						
Age 62 Basic	91	217,395.70	7	14,174.48	98	231,570.18
Age 62 Survivorship	284	627,067.08	10	19,493.92	294	646,561.00
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	59	98,020.92	7	6,733.34	66	104,754.26
20 Years Certain & Life	111	206,753.44	11	11,223.45	122	217,976.89
5 Years Certain	0	0.00	0	0.00	0	0.00
PLSO 12 Month Basic	28	50,697.69	10	12,801.99	38	63,499.68
PLSO 24 Month Basic	25	53,647.32	7	7,824.25	32	61,471.57
PLSO 36 Month Basic	59	90,145.47	22	24,092.55	81	114,238.02
PLSO 12 Month Survivor	63	145,813.18	4	7,911.30	67	153,724.48
PLSO 24 Month Survivor	72	114,733.88	4	4,031.33	76	118,765.21
PLSO 36 Month Survivor	156	226,654.63	8	6,954.81	164	233,609.44
<b>Total</b>	<b>4,718</b>	<b>\$ 10,286,699.18</b>	<b>435</b>	<b>\$ 682,258.27</b>	<b>5,153</b>	<b>\$ 10,968,957.45</b>



**Non-Hazardous  
Beneficiary Lives Summary**



	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	5	\$ 1,474.60	19	\$ 15,276.98	24	\$ 16,751.58
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	268	125,045.30	1,367	760,232.77	1,635	885,278.07
66-2/3% to Beneficiary	28	11,307.13	177	103,033.34	205	114,340.47
50% to Beneficiary	73	24,421.63	280	122,321.82	353	146,743.45
Pop-up Option	94	58,222.70	371	294,570.82	465	352,793.52
10 Years Certain	73	46,549.47	109	90,752.10	182	137,301.57
10 Years Certain & Life	53	31,967.65	70	53,957.29	123	85,924.94
Social Security Option						
Age 62 Basic	0	0.00	0	0.00	0	0.00
Age 62 Survivorship	17	17,309.84	94	160,766.40	111	178,076.24
Partial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	2	256.90	2	256.90
Dependent Child	2	979.89	5	1,394.49	7	2,374.38
Refund	0	0.00	5	3,396.24	5	3,396.24
15 Years Certain & Life	29	20,844.79	73	58,998.04	102	79,842.83
20 Years Certain & Life	37	23,539.78	71	68,998.94	108	92,538.72
5 Years Certain	98	63,552.09	101	92,709.64	199	156,261.73
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	686.80	14	4,397.87	16	5,084.67
PLSO 12 Month Survivor	5	1,545.06	18	23,997.15	23	25,542.21
PLSO 24 Month Survivor	1	1,501.03	7	5,665.32	8	7,166.35
PLSO 36 Month Survivor	21	10,423.00	38	18,557.02	59	28,980.02
<b>Total</b>	<b>806</b>	<b>\$ 439,370.76</b>	<b>2,821</b>	<b>\$ 1,879,283.13</b>	<b>3,627</b>	<b>\$ 2,318,653.89</b>

**Hazardous  
Beneficiary Lives Summary**



	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	0	\$ 0.00	19	\$ 18,226.72	19	\$ 18,226.72
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	7	3,485.04	131	163,610.15	138	167,095.19
66-2/3% to Beneficiary	0	0.00	30	40,671.51	30	40,671.51
50% to Beneficiary	1	540.07	37	31,457.17	38	31,997.24
Pop-up Option	1	2,472.55	100	161,260.93	101	163,733.48
10 Years Certain	5	9,117.58	14	14,804.96	19	23,922.54
10 Years Certain & Life	2	2,116.00	1	669.28	3	2,785.28
Social Security Option						
Age 62 Basic	0	0.00	2	551.10	2	551.10
Age 62 Survivorship	1	2,764.11	68	115,881.84	69	118,645.95
Paritial Deferred (Old Plan)	0	0.00	0	0.00	0	0.00
Widows Age 60	0	0.00	3	2,653.86	3	2,653.86
Dependent Child	101	37,043.42	74	27,151.88	175	64,195.30
Refund	1	263.41	9	6,182.19	10	6,445.60
15 Years Certain & Life	0	0.00	5	5,771.51	5	5,771.51
20 Years Certain & Life	1	1,754.80	19	17,192.03	20	18,946.83
5 Years Certain	2	1,291.34	7	9,757.03	9	11,048.37
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	1	907.44	6	2,333.15	7	3,240.59
PLSO 12 Month Survivor	0	0.00	0	0.00	0	0.00
PLSO 24 Month Survivor	0	0.00	2	1,381.86	2	1,381.86
PLSO 36 Month Survivor	0	0.00	5	6,958.93	5	6,958.93
<b>Total</b>	<b>123</b>	<b>\$ 61,755.76</b>	<b>532</b>	<b>\$ 626,516.10</b>	<b>655</b>	<b>\$ 688,271.86</b>



Non-Hazardous Members

Retired and Beneficiary Information June 30, 2009  
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	55	\$ 1,232,270	58	\$ 543,766	105	\$ 674,819	218	\$ 2,450,854
45-49	577	\$ 13,962,803	127	\$ 1,461,165	68	\$ 501,039	772	\$ 15,925,008
50-54	1,803	\$ 45,736,316	268	\$ 3,190,196	143	\$ 1,419,654	2,214	\$ 50,346,165
55-59	3,808	\$ 72,227,868	510	\$ 5,566,883	227	\$ 2,781,850	4,545	\$ 80,576,601
60-64	5,794	\$ 77,165,245	718	\$ 7,465,801	360	\$ 3,958,528	6,872	\$ 88,589,574
65-69	6,854	\$ 66,953,128	663	\$ 6,488,265	444	\$ 4,232,638	7,961	\$ 77,674,030
70-74	5,837	\$ 49,513,338	435	\$ 3,550,395	469	\$ 4,030,629	6,741	\$ 57,094,362
75-79	4,024	\$ 30,144,009	205	\$ 1,571,389	499	\$ 3,831,498	4,728	\$ 35,546,896
80-84	2,522	\$ 16,331,124	44	\$ 253,204	471	\$ 2,657,288	3,037	\$ 19,241,616
85-89	1,288	\$ 6,557,004	12	\$ 38,213	423	\$ 2,078,676	1,723	\$ 8,673,893
90 & Over	518	\$ 2,254,859	8	\$ 30,330	418	\$ 1,657,229	944	\$ 3,942,418
Totals	33,080	\$ 382,077,963	3,048	\$ 30,159,608	3,627	\$ 27,823,847	39,755	\$ 440,061,418





Hazardous Members

Retired and Beneficiary Information June 30, 2009  
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	124	\$ 3,515,470	71	\$ 1,139,965	199	\$ 1,003,441	394	\$ 5,658,876
45-49	521	\$ 15,871,453	75	\$ 1,322,854	22	\$ 231,503	618	\$ 17,425,810
50-54	710	\$ 20,839,309	85	\$ 1,373,618	31	\$ 384,373	826	\$ 22,597,300
55-59	1,130	\$ 34,802,304	87	\$ 1,268,889	72	\$ 1,226,466	1,289	\$ 37,297,659
60-64	1,022	\$ 25,352,508	48	\$ 808,994	73	\$ 1,228,935	1,143	\$ 27,390,438
65-69	683	\$ 13,605,696	24	\$ 306,804	77	\$ 1,557,625	784	\$ 15,470,125
70-74	332	\$ 6,778,124	4	\$ 62,796	73	\$ 1,289,185	409	\$ 8,130,105
75-79	151	\$ 3,057,451	6	\$ 60,623	64	\$ 808,061	221	\$ 3,926,135
80-84	63	\$ 1,271,084	3	\$ 35,748	32	\$ 404,505	98	\$ 1,711,336
85-89	12	\$ 153,042			9	\$ 101,287	21	\$ 254,329
90 & Over	1	\$ 757			3	\$ 23,882	4	\$ 24,639
Totals	4,749	\$ 125,247,199	403	\$ 6,380,290	655	\$ 8,259,262	5,807	\$ 139,886,751

**Total Non-Hazardous Active Members as of June 30, 2009  
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	37								37
Avg Pay	\$12,336								\$12,336
20-24	3,604	280							3,884
Avg Pay	\$19,856	\$23,245							\$20,101
25-29	3,402	1,187	59						4,648
Avg Pay	\$22,863	\$27,667	\$24,869						\$24,115
30-34	3,511	1,815	648	25					5,999
Avg Pay	\$22,252	\$30,019	\$34,086	\$36,742					\$25,941
35-39	5,491	2,604	1,374	363	17				9,849
Avg Pay	\$19,671	\$27,984	\$35,742	\$39,062	\$52,570				\$24,882
40-44	4,172	3,257	2,003	828	368	81			10,709
Avg Pay	\$20,872	\$25,376	\$30,905	\$39,295	\$45,985	\$53,557			\$26,653
44-49	3,772	3,848	3,017	1,481	820	197	123	22	13,280
Avg Pay	\$21,438	\$24,880	\$27,394	\$34,525	\$42,542	\$47,967	\$51,486	\$52,843	\$27,275
50-54	3,199	3,223	3,054	2,205	1,030	229	171	94	13,205
Avg Pay	\$22,157	\$25,652	\$26,838	\$30,407	\$38,467	\$44,274	\$47,241	\$58,283	\$27,708
55-59	2,522	2,347	2,351	2,078	1,198	252	156	112	11,016
Avg Pay	\$21,976	\$26,315	\$27,724	\$28,728	\$34,323	\$38,344	\$43,108	\$59,583	\$27,800
60-64	1,599	1,709	1,417	1,233	771	162	132	63	7,086
Avg Pay	\$19,800	\$24,970	\$26,296	\$29,068	\$30,731	\$35,500	\$36,775	\$54,111	\$26,128
65-69	691	697	556	378	196	36	41	42	2,637
Avg Pay	\$16,424	\$22,026	\$22,392	\$25,874	\$29,417	\$28,966	\$36,977	\$42,277	\$22,386
70 & over	326	372	288	208	109	19	21	31	1,374
Avg Pay	\$15,681	\$19,294	\$20,766	\$23,593	\$27,640	\$20,870	\$24,882	\$40,883	\$20,652
<b>Totals</b>	<b>32,326</b>	<b>21,339</b>	<b>14,767</b>	<b>8,799</b>	<b>4,509</b>	<b>976</b>	<b>644</b>	<b>364</b>	<b>83,724</b>
<b>Avg Pay</b>	<b>\$20,983</b>	<b>\$25,996</b>	<b>\$28,445</b>	<b>\$31,371</b>	<b>\$36,796</b>	<b>\$41,782</b>	<b>\$43,523</b>	<b>\$54,304</b>	<b>\$26,081</b>

**Total Hazardous Active Members as of June 30, 2009  
Tabulated by Attained Ages and Years of Service**



Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20	2								2
Avg Pay	\$19,050								\$19,050
20-24	474	15							489
Avg Pay	\$33,522	\$38,667							\$33,680
25-29	1,038	228							1,266
Avg Pay	\$39,401	\$45,601							\$40,517
30-34	699	769	218						1,686
Avg Pay	\$39,935	\$48,841	\$53,974						\$45,812
35-39	565	716	759	157	10				2,207
Avg Pay	\$35,385	\$47,733	\$55,872	\$60,570	\$69,049				\$48,381
40-44	276	387	431	504	150	8			1,756
Avg Pay	\$37,668	\$47,505	\$53,001	\$61,562	\$68,241	\$73,626			\$53,233
44-49	162	220	240	327	182	30	9	1	1,171
Avg Pay	\$38,496	\$45,288	\$51,882	\$59,128	\$68,271	\$71,865	\$74,096	\$69,084	\$54,059
50-54	91	120	111	164	97	17	22	10	632
Avg Pay	\$39,966	\$45,246	\$50,516	\$56,345	\$65,870	\$80,116	\$71,079	\$73,534	\$53,741
55-59	72	97	66	65	25	1	7	14	347
Avg Pay	\$36,138	\$45,132	\$55,107	\$54,294	\$64,215	\$59,904	\$84,370	\$81,103	\$50,540
60-64	33	46	33	16	6			4	138
Avg Pay	\$39,997	\$47,191	\$44,715	\$53,219	\$59,970			\$82,305	\$47,151
65-69	9	17	10	3	1				40
Avg Pay	\$32,807	\$41,388	\$48,119	\$47,236	\$44,196				\$41,649
70 & over	6	9	6			1	1		23
Avg Pay	\$30,070	\$41,932	\$52,502			\$97,692	\$71,100		\$45,287
<b>Totals</b>	<b>3,427</b>	<b>2,624</b>	<b>1,874</b>	<b>1,236</b>	<b>471</b>	<b>57</b>	<b>39</b>	<b>29</b>	<b>9,757</b>
<b>Avg Pay</b>	<b>\$37,759</b>	<b>\$47,302</b>	<b>\$53,887</b>	<b>\$59,575</b>	<b>\$67,411</b>	<b>\$74,816</b>	<b>\$74,162</b>	<b>\$78,244</b>	<b>\$48,100</b>





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

**Prepared as of June 30, 2009**



November 9, 2009

## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

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, 2010. The date of the valuation was June 30, 2009.

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,

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

TJC:kc

S:\Kentucky Retirement Systems\2009\Valuation\Reports\SPRS Pension Val Report.doc

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

**PREPARED AS OF JUNE 30, 2009**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2009, 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>6/30/2009</b>	<b>6/30/2008</b>
<b>Contributions for next fiscal year:</b>		
Retirement	35.74%	35.23%
Insurance	<u>49.89</u>	<u>56.89</u>
Total	85.63%	92.12%
<b>Funded status as of valuation date:</b>		
Retirement		
Actuarial accrued liability	\$602,328,868	\$587,129,257
Actuarial value of assets	329,966,989	350,891,451
Unfunded liability on actuarial value of assets	272,361,879	236,237,806
Funded ratio on actuarial value of assets	54.78%	59.76%
Market value of assets	\$256,571,073	\$337,358,918
Unfunded liability on market value of assets	345,757,795	249,770,339
Funded ratio on market value of assets	42.60%	57.46%
Insurance		
Actuarial accrued liability	\$364,031,141	\$445,107,468
Actuarial value of assets	123,526,647	123,961,197
Unfunded liability on actuarial value of assets	240,504,494	321,146,271
Funded ratio on actuarial value of assets	33.93%	27.85%
Market value of assets	\$93,686,940	\$121,781,967
Unfunded liability on market value of assets	270,344,201	323,325,501
Funded ratio on market value of assets	25.74%	27.36%
<b>Demographic data as of valuation date:</b>		
Number of retired participants and beneficiaries	1,184	1,135
Number of vested former members	58	55
Number of former members due a refund	274	246
Number of active members	946	993
Total salary	\$51,660,396	\$53,269,080
Average salary	\$54,609	\$53,645



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 changes in benefit provisions since the last valuation. On June 27, 2008 House Bill 1, the Pension Reform legislation, was signed by Governor Beshear. This law is a comprehensive pension reform that will significantly impact retirement benefits for employees who begin participating with the Kentucky Retirement Systems on or after September 1, 2008. The summary of main benefit and contribution provisions can be found in Schedule D. Most provisions of HB 1 apply to employees hired on or after September 1, 2008, including the following:
  - A tiered structure for benefit factors
  - Additional nonrefundable 1% employee contribution to a health insurance account
  - New retirement eligibility requirements
  - Different rules on computing final compensation for retirement
  - Different medical insurance eligibility
  - Different post-retirement medical insurance benefit cost-of-living increase
5. An additional benefit change beyond HB 1 was the implementation of an Employer Group Waiver Plan contracting directly with CMS to provide a Medicare Part D prescription drug plan. This change resulted in a significant decrease in the insurance liabilities in this valuation.
6. There were changes in actuarial assumptions since the last valuation. In August 2009, the Board approved the Kentucky Retirement Systems Experience Study for the Three-Year Period Ending June 30, 2008. The actuarial assumptions and methods employed can be found in Schedule C.
7. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
8. The investment rate of return for developing insurance liabilities and contribution rates shown in this report for June 30, 2008 and June 30, 2009 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 those 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, 2009 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
946	\$51,660,396	\$54,609	37.3	11.0

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

**SCHEDULE OF SPRS ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2004	999	\$43,835,208	\$43,879	2.2%
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

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	1,010	\$40,313,825	\$39,915	60.6
Disability	38	\$666,664	17,544	57.0
Beneficiary	136	3,293,448	24,217	62.5
Total in SPRS	1,184	\$44,273,937	\$37,394	60.7

This valuation also includes 332 inactive members of which 58 are vested.





**SECTION III - ASSETS**

1. As of June 30, 2009 the total market value of assets amounted to \$350,258,013 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>
\$256,571,073	\$93,686,940	\$350,258,013

2. The five-year smoothed market related actuarial value of assets used for the current valuation was \$453,493,636. Schedule B shows the development of the actuarial value of assets as of June 30, 2009. The following table shows the actuarial value of assets.

**COMPARISON OF ACTUARIAL VALUE OF ASSETS**

	<b>JUNE 30, 2009</b>	<b>JUNE 30, 2008</b>
<b>Retirement</b>	\$ 329,966,989	\$ 350,891,451
<b>Insurance</b>	<u>123,526,647</u>	<u>123,961,197</u>
<b>Total</b>	\$ 453,493,636	\$ 474,852,648



## 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, 2009. 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 \$675,533,360, of which \$456,671,083 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$2,914,271 is for the prospective benefits payable on account of inactive members, \$215,948,006 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 \$329,966,989 as of June 30, 2009. The difference of \$345,566,371 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, \$36,405,148 is the present value of future contributions expected to be made by members, and the balance of \$309,161,223 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 7.88% 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 \$36,799,344. When this amount is subtracted from \$309,161,223, which is the present value of the total future contributions to be made by the State, there remains \$272,361,879 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 27.62% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$272,361,879 over 28 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.



## Insurance

1. The total valuation balance sheet on account of insurance benefits shows that the System has total prospective insurance benefit liabilities of \$533,298,028, of which \$158,534,652 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$8,556,801 is for the prospective benefits payable on account of inactive members, and \$366,206,575 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 \$123,526,647 as of June 30, 2009. The difference of \$409,771,381 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, \$269,371 is the present value of future contributions expected to be made by members, and the balance of \$409,502,010 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 33.02% 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 \$168,997,516. When this amount is subtracted from \$409,502,010, which is the present value of the total future contributions to be made by the employers, there remains \$240,504,494 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 16.63% of payroll. This rate is sufficient to liquidate the unfunded accrued liability of \$240,504,494 over 28 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.





## 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, 2009 is shown below (\$ millions).

### Experience Gain/(Loss) Retirement Benefits

		Amount	
(1)	UAAL* as of 6/30/08	\$	236.2
(2)	Normal cost from last valuation		5.1
(3)	Employer contributions		8.2
(4)	Interest accrual: [(1) + (2)] x .0775 - (3) x .03875		18.4
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	251.5
(6)	Change due to plan amendments		(10.3)
(7)	Change due to new actuarial assumption or methods		(3.3)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$	237.9
(9)	Actual UAAL as of 6/30/09	\$	272.4
(10)	Gain/(loss): (8) - (9)	\$	(34.5)
(11)	Accrued liabilities as of 6/30/08	\$	587.1
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		(5.9)%

\*Unfunded actuarial accrued liability.



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

		Amount
(1)	UAAL* as of 6/30/08	\$ 321.1
(2)	Normal cost from last valuation	17.6
(3)	Expected employer contributions	<u>30.2</u>
(4)	Interest accrual: [(1) + (2) - (3)] x .045	13.9
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 322.4
(6)	Change due to plan amendments, including adoption of the Employer Group Waiver Plan	(34.8)
(7)	Change due to new actuarial assumption or methods	(53.3)
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 234.3
(9)	Actual UAAL as of 6/30/09	\$ 240.5
(10)	Gain/(loss): (8) - (9)	\$ (6.2)
(11)	Accrued liabilities as of 6/30/08	\$ 445.1
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	(1.4)%

*\*Unfunded actuarial accrued liability.*



**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 6/30/09	Insurance \$ Gain (or Loss) For Year Ending 6/30/09
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (4.8)	\$ 8.1
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.2)	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.	0.0	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.	1.6	5.1
<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.	2.1	20.9
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(0.1)	(0.7)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(17.4)	(6.0)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	0.0	6.2
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(15.7)</u>	<u>(40.3)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (34.5)	\$ (6.2)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>13.6</u>	<u>88.1</u>
<b>Composite Gain (or Loss) During Year</b>	\$ (20.9)	\$ 81.9





**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 2010/2011 fiscal year.

**Required Contribution Rates  
Retirement**

Contribution for	Amount	% of Payroll
A. Normal Cost:		
(1) Service retirement benefits	\$ 7,688,550	14.88%
(2) Disability benefits	435,235	0.84
(3) Survivor benefits	81,128	0.16
(4) Total	\$ 8,204,913	15.88%
B. Member Contributions	\$ 4,132,832	8.00%
C. Employer Normal Cost: [A(4) - B]	\$ 4,072,081	7.88%
D. Administrative Expenses	\$ 123,985	0.24%
E. Unfunded Actuarial Accrued Liability Contributions*:		
(1) UAAL Contribution Based on 6/30/08 Valuation:	\$ 13,529,646	25.40%
(2) Change due to:		
a. Active decrements	\$ 179,840	0.35%
b. Pay increases	(108,286)	(0.21)
c. Retiree mortality	92	0.00
d. Investment return	909,241	1.76
e. COLA	599,507	1.16
f. Assumption Change	(171,916)	(0.33)
g. Other	(670,818)	(1.31)
h. Total Change	\$ 737,660	2.22%
(3) UAAL Contribution Based on 6/30/09 Valuation: [E(1) +E(2)h]	\$ 14,267,306	27.62%
F. Total Recommended Employer Contribution Rate: [C+D+E(3)]	\$ 18,463,372	35.74%

\* Based on 29 year amortization of the UAAL from June 30, 2008 and 28 years from June 30, 2009



**Required Contribution Rates  
Insurance**

Contribution for	Amount	% of Payroll
A. Normal Cost	\$ 17,069,935	33.04%
B. Member Contributions*	\$ 10,332	0.02%
C. Employer Normal Cost: [A - B]	\$ 17,059,603	33.02%
D. Administrative Expenses	\$ 123,525	0.24%
E. Unfunded Actuarial Accrued Liability**	\$ 8,589,446	16.63%
F. Total Recommended Employer Contribution Rate: [C+D+E]	\$ 25,772,574	49.89%

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

*\*\* Based on 28 year amortization of the UAAL from June 30, 2009*



**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, 2009**

<b>GROUP</b>	<b>NUMBER</b>
Retirees and beneficiaries currently receiving benefits	1,184
Terminated employees entitled to benefits but not yet receiving benefits	332
Active Members	<u>946</u>
Total	2,462

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**

<b>Actuarial Valuation Date</b>	<b>Value of Plan Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) Entry Age (b)</b>	<b>Unfunded AAL (UAAL) (b - a)</b>	<b>Funded Ratio (a / b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b - a) / (c))</b>
6/30/2004	\$ 385,077,195	\$ 437,482,425	\$ 52,405,230	88.0%	\$ 43,835,208	119.6%
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

**INSURANCE BENEFITS  
SCHEDULE OF FUNDING PROGRESS**

<b>Actuarial Valuation Date</b>	<b>Value of Plan Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) Entry Age (b)</b>	<b>Unfunded AAL (UAAL) (b - a)</b>	<b>Funded Ratio (a / b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b - a) / (c))</b>
6/30/2004	\$ 96,622,908	\$ 197,604,301	\$ 100,981,393	48.9%	\$ 43,835,208	230.4%
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



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2009. Additional information as of the latest actuarial valuation follows.

<b>Retirement Benefits</b>	
Valuation date	6/30/2009
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	28 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	6/30/2009
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	28 years
Asset valuation method	5 Year Smoothed Market
Medical Trend Assumption	10.5 - 5.0%
Year of Ulitimate Trend	2017
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, 2009 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2008. 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, 2009	JUNE 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 329,966,989	\$ 350,891,451
Prospective contributions		
Member contributions	\$ 36,405,148	\$ 35,604,574
Employer normal contributions	36,799,344	42,610,652
Unfunded accrued liability contributions	<u>272,361,879</u>	<u>236,237,806</u>
Total prospective contributions	<u>\$ 345,566,371</u>	<u>\$ 314,453,032</u>
Total assets	<u>\$ 675,533,360</u>	<u>\$ 665,344,483</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 456,671,083	\$ 423,834,095
Present value of benefits payable on account of active members	215,948,006	239,033,115
Present value of benefits payable on account of inactive members	<u>2,914,271</u>	<u>2,477,273</u>
Total liabilities	<u>\$ 675,533,360</u>	<u>\$ 665,344,483</u>





**VALUATION BALANCE SHEET  
INSURANCE BENEFITS**

	JUNE 30, 2009	JUNE 30, 2008
<b>ASSETS</b>		
Current actuarial value of assets	\$ 123,526,647	\$ 123,961,197
Prospective contributions		
Member contributions	\$ 269,371	\$ 0
Employer normal contributions	168,997,516	162,495,763
Unfunded accrued liability contributions	<u>240,504,494</u>	<u>321,146,271</u>
Total prospective contributions	<u>\$ 409,771,381</u>	<u>\$ 483,642,034</u>
Total assets	<u><u>\$ 533,298,028</u></u>	<u><u>\$ 607,603,231</u></u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 158,534,652	\$ 169,176,606
Present value of benefits payable on account of active members	366,206,575	428,947,986
Present value of benefits payable on account of inactive members	<u>8,556,801</u>	<u>9,478,639</u>
Total liabilities	<u><u>\$ 533,298,028</u></u>	<u><u>\$ 607,603,231</u></u>



The following tables provide the solvency test for SPRS members.

**Solvency Test  
Retirement Benefits**

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2004*	\$ 37,658,106	\$ 318,664,694	\$ 81,159,625	\$ 385,077,195	100.0%	100.0%	35.4%
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

\*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)				
6/30/2004*	\$ 0	\$ 119,104,851	\$ 78,499,450	\$ 96,622,908	100.0%	81.1%	0.0%
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

\*Reported by prior actuarial firm.



**SCHEDULE B**

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

Valuation date June 30:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 348,806,508	\$ 350,891,451				
B. Market Value End of Year	337,358,918	256,571,073				
C. Market Value Beginning of Year	376,381,488	337,358,918				
D. Cash Flow						
D1. Contributions	12,850,624	13,124,235				
D2. Benefit Payments	(39,452,886)	(42,615,976)				
D3. Administrative Expenses	(137,444)	(121,936)				
D4. Investment Expenses	<u>(349,948)</u>	<u>(344,480)</u>				
D5. Net	(27,089,654)	(29,958,157)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(11,932,916)	(50,829,688)				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	28,483,350	25,342,266				
E4. Amount for Phased-In Recognition	(40,416,266)	(76,171,954)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(8,083,253)	(15,234,391)	0	0	0	0
F2. First Prior Year	4,654,236	(8,083,253)	(15,234,391)	0	0	0
F3. Second Prior Year	2,482,933	4,654,236	(8,083,253)	(15,234,391)	0	0
F4. Third Prior Year	(128,096)	2,482,933	4,654,236	(8,083,253)	(15,234,391)	0
F5. Fourth Prior Year	<u>1,765,427</u>	<u>(128,096)</u>	<u>2,482,933</u>	<u>4,654,236</u>	<u>(8,083,253)</u>	<u>(15,234,391)</u>
F6. Total Recognized Investment Gain	691,247	(16,308,571)	(16,180,475)	(18,663,408)	(23,317,644)	(15,234,391)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 350,891,451	\$ 329,966,989				
H. Difference Between Market & Actuarial Values	\$ (13,532,533)	\$ (73,395,916)	\$ (57,215,441)	\$ (38,552,033)	\$ (15,234,391)	\$ 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:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$ 115,215,912	\$ 123,961,197				
B. Market Value End of Year	121,781,967	93,686,940				
C. Market Value Beginning of Year	132,573,898	121,781,967				
D. Cash Flow						
D1. Contributions	7,521,645	7,670,129				
D2. Benefit Payments	(6,767,181)	(7,475,826)				
D3. Administrative Expenses	(105,513)	(123,525)				
D4. Investment Expenses	<u>(84,947)</u>	<u>(59,315)</u>				
D5. Net	564,004	11,463				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(11,355,935)	(28,106,490)				
E2. Assumed Rate	4.50%	4.50%				
E3. Amount for Immediate Recognition	6,065,374	5,541,096				
E4. Amount for Phased-In Recognition	(17,421,309)	(33,647,586)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(3,484,262)	(6,729,517)	0	0	0	0
F2. First Prior Year	3,373,433	(3,484,262)	(6,729,517)	0	0	0
F3. Second Prior Year	784,282	3,373,433	(3,484,262)	(6,729,517)	0	0
F4. Third Prior Year	68,955	784,282	3,373,433	(3,484,262)	(6,729,517)	0
F5. Fourth Prior Year	<u>1,373,499</u>	<u>68,955</u>	<u>784,282</u>	<u>3,373,433</u>	<u>(3,484,262)</u>	<u>(6,729,517)</u>
F6. Total Recognized Investment Gain	2,115,907	(5,987,109)	(6,056,064)	(6,840,346)	(10,213,779)	(6,729,517)
G. Actuarial Value End of Year:						
A.+D5.+E3.+F6.	\$ 123,961,197	\$ 123,526,647				
H. Difference Between Market & Actuarial Values	\$ (2,179,230)	\$ (29,839,707)	\$ (23,783,643)	\$ (16,943,297)	\$ (6,729,517)	\$ 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	33.33	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 September 1, 2008. The annual rate of service retirement is 100% at age 55.

++ For members whose participation began on or after September 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
2010	10.5%
2011	9.5
2012	8.5
2013	7.5
2014	6.5
2015	6.0
2016	5.5
2017 and beyond	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**

2009					
	Single	Parent Plus	Couple	Family	
<b>TOTAL PREMIUMS</b>					
Standard PPO	\$ 446.24	\$ 690.00	\$ 1,044.48	\$ 1,162.16	
Optimum PPO	\$ 566.20	\$ 821.46	\$ 1,265.10	\$ 1,407.32	
Capitol Choice	\$ 545.08	\$ 826.38	\$ 1,249.74	\$ 1,383.52	

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	

**MEDICARE ELIGIBLE**

Effective January 1, 2010	Self-Supporting (Used for OPEB claims cost)	Funding rates (Used for Retiree Contribution Amounts)
Available Plan		
Kentucky Retirement System Health Plan - Medical Only	\$ 162.22	\$ 162.00
Kentucky Retirement System Health Plan - PLUS	\$ 217.41	\$ 267.00
Kentucky Retirement System Health Plan - PREMIUM	\$ 384.47	\$ 338.00

Above amounts are shown as average retiree costs. In the valuation, the claims costs are converted to age 65 amounts and age adjusted.



**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 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 \$18.21 per month for each year of earned service for retirees. Upon the retiree's death, the surviving spouse will receive \$12.14 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>2004*</b>	<b>2005*</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
			<b><u>Number</u></b>			
Beginning of Year	941	992	1,036	1,067	1,105	1,135
Added	62	50	43	49	42	75
Removed	11	6	10	11	12	26
End of Year	992	1,036	1,067	1,105	1,135	1,184
			<b><u>Annual Allowances</u></b>			
Beginning of Year	\$ 28,115,500	\$ 30,805,600	\$ 32,983,900	\$ 34,651,251	\$ 37,208,377	\$ 41,293,017
Added	2,580,100	1,813,000	1,943,760	2,836,956	4,330,608	3,380,331
Removed	189,900	159,600	276,409	279,830	245,968	399,410
End of Year	\$ 30,805,600	\$ 32,983,900	\$ 34,651,251	\$ 37,208,377	\$ 41,293,017	\$ 44,273,937
% Increase in Allowances	9.57%	7.07%	5.06%	7.38%	10.98%	7.22%
Average Annual Allowance	\$ 31,054	\$ 31,838	\$ 32,475	\$ 33,673	\$ 36,382	\$ 37,394

\*Reported by prior actuarial firm.



### Retired Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	90	\$ 282,198.73	5	\$ 14,285.39	95	\$ 296,484.12
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	115	347,900.42	0	0.00	115	347,900.42
66-2/3% to Beneficiary	78	283,396.29	1	2,911.34	79	286,307.63
50% to Beneficiary	77	271,439.67	0	0.00	77	271,439.67
Pop-up Option	395	1,363,324.83	3	9,463.15	398	1,372,787.98
10 Years Certain	2	8,665.60	0	0.00	2	8,665.60
10 Years Certain & Life	32	95,952.59	0	0.00	32	95,952.59
Social Security Option						
Age 62 Basic	31	107,432.96	0	0.00	31	107,432.96
Age 62 Survivorship	153	441,420.04	1	10,112.06	154	451,532.10
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	11	31,817.80	1	3,747.49	12	35,565.29
20 Years Certain & Life	30	89,034.37	1	2,689.84	31	91,724.21
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	446.06	2	446.06
PLSO 12 Month Survivor	6	19,895.39	0	0.00	6	19,895.39
PLSO 24 Month Survivor	5	12,744.01	0	0.00	5	12,744.01
PLSO 36 Month Survivor	9	16,162.76	0	0.00	9	16,162.76
<b>Total</b>	<b>1,034</b>	<b>\$ 3,371,385.46</b>	<b>14</b>	<b>\$ 43,655.33</b>	<b>1,048</b>	<b>\$ 3,415,040.79</b>





### Beneficiary Lives Summary

	Male Lives		Female Lives		Total	
	Number	Monthly Benefits	Number	Monthly Benefits	Number	Monthly Benefits
Basic Form	0	\$ 0.00	6	\$ 4,372.28	6	\$ 4,372.28
Straight Life (Old Plan)	0	0.00	0	0.00	0	0.00
Joint & Survivor						
100% to Beneficiary	2	4,012.74	56	142,791.02	58	146,803.76
66-2/3% to Beneficiary	1	765.10	4	7,459.79	5	8,224.89
50% to Beneficiary	1	1,241.91	16	23,340.39	17	24,582.30
Pop-up Option	0	0.00	10	23,447.45	10	23,447.45
10 Years Certain	1	565.67	1	2,812.05	2	3,377.72
10 Years Certain & Life	0	0.00	0	0.00	0	0.00
Social Security Option						
Age 62 Basic	0	0.00	1	3,155.40	1	3,155.40
Age 62 Survivorship	0	0.00	23	46,049.17	23	46,049.17
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	5	1,656.34	3	1,060.98	8	2,717.32
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	5	8,234.44	5	8,234.44
5 Years Certain	1	3,489.29	0	0.00	1	3,489.29
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>11</b>	<b>\$ 11,731.05</b>	<b>125</b>	<b>\$ 262,722.97</b>	<b>136</b>	<b>\$ 274,454.02</b>



**Retired and Beneficiary Information June 30, 2009  
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	24	\$ 689,900	4	\$ 59,421	10	\$ 60,440	38	\$ 809,761
45-49	86	3,180,491	5	70,240	3	61,078	94	3,311,809
50-54	112	4,674,423	6	127,430	9	84,847	127	4,886,700
55-59	251	10,994,620	7	96,110	19	410,792	277	11,501,522
60-64	262	10,811,608	9	201,864	18	361,876	289	11,375,348
65-69	118	3,981,699	1	1,095	11	345,456	130	4,328,250
70-74	75	2,640,404	4	98,267	9	333,386	88	3,072,056
75-79	50	1,978,165	2	12,237	23	713,075	75	2,703,477
80-84	23	985,944	0	0	17	465,974	40	1,451,917
85-89	8	376,573	0	0	15	437,917	23	814,490
90 & Over	0	0	0	0	2	18,608	2	18,608
Totals	1,009	\$ 40,313,825	38	\$ 666,664	136	\$ 3,293,448	1,183	\$ 44,273,938



**Total Active Members as of June 30, 2009  
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date								Totals
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 26	27 - 29	30+	
Under 20 Avg Pay									
20-24 Avg Pay	24 \$38,362								24 \$38,362
25-29 Avg Pay	99 \$39,959	25 \$49,094							124 \$41,800
30-34 Avg Pay	57 \$44,054	123 \$49,547	15 \$54,746						195 \$48,342
35-39 Avg Pay	27 \$41,332	71 \$49,271	135 \$58,015	23 \$61,104	4 \$64,914				260 \$54,274
40-44 Avg Pay	11 \$43,612	23 \$49,148	35 \$58,033	72 \$65,740	40 \$69,498	3 \$78,352			184 \$61,900
44-49 Avg Pay	5 \$44,215	7 \$47,818	16 \$56,222	27 \$63,803	45 \$71,986	7 \$73,603	6 \$78,118		113 \$65,499
50-54 Avg Pay	3 \$40,096	1 \$47,592	2 \$58,686	1 \$57,516	11 \$68,755	9 \$72,113	3 \$77,796	4 \$70,296	34 \$66,549
55-59 Avg Pay							3 \$83,080	3 \$86,484	6 \$84,782
60-64 Avg Pay							1 \$72,624	3 \$89,156	4 \$85,023
65-69 Avg Pay			1 \$66,564						1 \$66,564
70 & over Avg Pay		1 \$49,704							1 \$49,704
<b>Totals Avg Pay</b>	<b>226 \$41,260</b>	<b>251 \$49,332</b>	<b>204 \$57,686</b>	<b>123 \$64,381</b>	<b>100 \$70,352</b>	<b>19 \$73,647</b>	<b>13 \$78,766</b>	<b>10 \$80,810</b>	<b>946 \$54,609</b>