



KENTUCKY RETIREMENT SYSTEMS

William A. Thielen, Executive Director

Perimeter Park West ▾ 1260 Louisville Road ▾ Frankfort, Kentucky 40601
kyret.ky.gov ▾ Phone: 502-696-8800 ▾ Fax: 502-696-8822



November 20, 2012

Senator Damon Thayer
Co-Chairman
Kentucky Public Pensions Task Force
Room 209, Capitol Annex
Frankfort, KY 40601

Representative Michael Cherry
Co-Chairman
Kentucky Public Pensions Task Force
Room 370A, Capitol Annex
Frankfort, KY 40601

Dear Senator Thayer and Representative Cherry:

The purpose of this letter is to provide you with the comments of the Kentucky Retirement Systems (KRS) regarding various options for pension funding and reform that are being considered by the Kentucky Public Pensions Task Force. These options were presented to the Task Force at its meeting on October 29, 2012 by representatives from the PEW Center on the States and the John & Laura Arnold Foundation.

As the recommendations of the Task Force are finalized and more specifics become known about the recommendations, KRS will be prepared to provide additional information to the members of the Kentucky General Assembly, including specific analyses by our actuary, Cavanaugh Macdonald. The comments of KRS follow below.

Shortening the current KERS and SPRS phase-in to the full actuarially recommended contribution (ARC) rate

The impact of shortening the phase-in period to the full actuarially recommended contribution (ARC) rate for the Kentucky Employees Retirement System (KERS) and State Police Retirement System (SPRS) plans will be an immediate increase in funding to these plans. This is particularly needed with respect to the KERS Non-Hazardous plan which was only 33.3% funded as of June 30, 2011, and which is experiencing significant cash flow problems and the diminution of plan assets. I have attached to this letter copies of two letters from the KRS actuary, Cavanaugh Macdonald, dated November 8 and November 16, 2012, which analyze the impact of shortening the full ARC phase-in period on employer contribution rates over 20 years. Also enclosed are two letters from Cavanaugh Macdonald dated November 30, 2011 which provide for comparison purposes the projected employer contribution rates over 20 years if the current HB 1 phase-in schedule is retained. Obviously, due to the significant underfunding,

particularly in the KERS Non-Hazardous and SPRS plans, the sooner that 100% of the full ARC is reached, the better.

Eliminating automatic Cost of Living Adjustments (COLAs) and granting COLAs only when fully funded

With regard to Cost of Living Adjustments (COLAs), the option under consideration is the elimination of the current statutory language (KRS 61.691(2)) establishing an automatic 1.5% COLAs, unless the COLAs are reduced or suspended by the General Assembly. COLAs would only be granted if they were fully funded by employees and/or employers. This option is consistent with a resolution adopted by the KRS Board of Trustees on November 18, 2010, which “urged the Governor and the General Assembly to make certain that any amount of cost of living adjustment given pursuant to KRS 61.691 is fully funded, in addition to the amounts provided pursuant to KRS 61.565 [actuarially recommended employer contributions]”.

Additional comments from the KRS actuary, Cavanaugh Macdonald, on the COLA options are included in a letter dated November 9, 2012, which is attached to this letter.

Resetting the unfunded actuarial liability (UAL) amortization period to 30 years beginning July 1, 2014

Please see the comment on page 2 of the attached November 9 letter from Cavanaugh Macdonald. As pointed out by the actuary, resetting the amortization period, effective July 1, 2014, to a new 30-year closed amortization period will have the impact of increasing long-term costs to employers, but it will provide contribution rate relief (e.g., approximately 2% of payroll in the case of the KERS Non-Hazardous plan) in the short-term. If this is done as a part of an overall plan to increase funding to the KRS plans, it will serve to balance the economic impact on employers.

Increasing funding to KRS through revenues derived from the issuance of Pension Obligation Bonds and/or the increased taxation of pension benefits

Due to the underfunding of all KRS plans, particularly the KERS Non-Hazardous and SPRS plans, KRS would welcome and encourage any influx of additional revenue over and above the required annual employer contribution rate, regardless of the source of that revenue.

Increasing the employee pension and/or health insurance contribution rate

While the adoption of this option would certainly have the effect of increasing funding to KRS, it raises the issue of a violation of the inviolable contract set forth for all plans in KRS 16.652, 61.692 and 78.852.

Extending the waiting period before a retiree can be reemployed by a participating employer to two years

If this option is recommended and adopted by the General Assembly, it will have the impact of slightly reducing the funds that are currently paid to KRS by participating employers. Since the enactment of HB 1 during the 2008 legislative session, employers are required to pay employer contributions on all creditable compensation earned by retirees who return to full time employment on or after September 1, 2008 with a participating employer, even though these retired-reemployed persons cannot participate in a new retirement account. Also, employers are required to reimburse KRS for the cost of health insurance paid by KRS to provide coverage for the retired-reemployed persons who return to work full-time with a participating employer on or after September 1, 2008. However, the dollar amounts are relatively small and would no doubt be offset by the savings realized from delayed retirements. The enactment of this option would, in all likelihood, end what is now commonly referred to as the practice of "double-dipping".

Establishing a new cash balance or stacked hybrid pension plan for new hires

The establishment of benefit changes for new hires is a policy decision to be made by the General Assembly. As pointed out in the enclosed November 9 letter from Cavanaugh Macdonald, we will need more specifics in order to comment on and analyze the impact of benefit changes for new hires. However, it should be pointed out that any changes in benefits for new hires will have no effect on the current unfunded actuarial liability and the cost related to it.

It should be noted that KRS is in the final stages of implementing and supporting a completely new technology system. The design and implementation of this system has taken over five years. If a new retirement plan is adopted, it will require a very extensive effort by KRS staff and possibly external vendors to redesign and reprogram this new system to accommodate a new retirement plan. Although nothing specific is known at this point about the elements of a new plan, initial discussions with KRS Information Technology and other staff indicate that it would take 18-24 months to fully redesign and reprogram our system to accommodate a new retirement plan for new hires. Also, it is likely that KRS would have to hire additional staff and/or external expertise to accomplish the task, which would necessitate budgetary additions and adjustments.

As stated above, KRS stands ready to provide any additional information and analysis that might be needed by the Task Force or the Kentucky General Assembly. Please let me know if you have any questions about the contents of this letter or the attachments.

Sincerely,



William A. Thielen
Executive Director



Cavanaugh Macdonald

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The experience and dedication you deserve

November 8, 2012

Mr. William A. Thielen
Executive Director
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Subject: Twenty-Year Rate Projection with Shortened Phase-in Periods

Dear Bill:

We have revised the results of twenty year projections of the KERS Non-Hazardous, KERS Hazardous and the SPRS Funds to reflect a 4-year and 6-year phase-in percentages instead of those required under House Bill 1 (HB1). The table below shows the current phase-in rates and the proposed 4-year and 6-year phase-in rates.

Fiscal Year	Current HB1 Phase-In			Alternative Phase-In	
	% of ARC				
	KERS Non-Hazardous	KERS Hazardous	SPRS	4-Year	6-Year
13-14	57%	86%	75%	70%	67%
14-15	61%	89%	80%	80%	73%
15-16	65%	92%	85%	90%	80%
16-17	69%	95%	90%	100%	88%
17-18	73%	98%	95%		94%
18-19	77%	100%	98%		100%
19-20	81%		100%		
20-21	85%				
21-22	89%				
22-23	93%				
23-24	97%				
24-25	100%				

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

Phone (678) 388-1700 • Fax (678) 388-1730

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The projections were performed using the June 30, 2011 valuation results as a base, and projecting active and retired memberships for each of the funds over the twenty-year period assuming the active population remained constant in number. We then performed valuations of the populations annually to develop the contribution rates. The rates in future years assumed all actuarial assumptions were met each year and that funding was as currently budgeted under HB1 through the fiscal year ending June 30, 2013 and, for years after that, as required under the alternative phase in rates, including the changes in benefit structure for those hired on or after September 1, 2008. The insurance rates shown are net of the 1% member contributions paid into the 401(h) account by members hired on or after September 1, 2008. Even though these contributions are technically made to the pension funds, they were considered health care assets for purposes of the projections.

When preparing the projections under the 4-year and 6-year phase-ins for the KERS Hazardous and SPRS Funds, we used the greater of the HB1 phase-in rates and the proposed alternative phase-in rates.

The KERS non-hazardous and SPRS insurance rates reflect a blending of results between the 4.50% interest rate used in the June 30, 2011 valuation and results at a 7.75% fully-funded interest rate. This blending was necessary to reflect the increasing portion of the ARC being contributed in accordance with the proposed phase-in rates.

Finally, the results were prepared under two COLA alternatives. The first reflects a 1.5% Ad-Hoc COLA beginning July 1, 2014 since the Legislature has suspended COLA's payable on July 1, 2012 and July 1, 2013. The second reflects no ad-hoc COLA's.

The tables below show the contribution rates for each of the funds over the twenty-year period under the various alternatives.



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4-Year Phase in Period
KERS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.59%	8.23%	19.82%	12.33%	16.65%	28.98%
2013	14.86%	8.75%	23.61%	13.41%	16.38%	29.79%
2014	20.97%	11.22%	32.19%	14.63%	17.32%	31.95%
2015	25.02%	11.34%	36.36%	15.35%	17.92%	33.27%
2016	28.75%	11.22%	39.97%	15.31%	17.81%	33.12%
2017	32.60%	11.10%	43.70%	16.50%	18.86%	35.36%
2018	33.34%	11.02%	44.36%	16.70%	18.37%	35.07%
2019	33.87%	10.93%	44.80%	16.93%	17.87%	34.80%
2020	34.39%	10.84%	45.23%	17.15%	17.36%	34.51%
2021	34.92%	10.75%	45.67%	17.44%	16.87%	34.31%
2022	35.44%	10.67%	46.11%	17.74%	16.38%	34.12%
2023	35.97%	10.58%	46.55%	18.02%	15.82%	33.84%
2024	36.50%	10.51%	47.01%	18.34%	15.27%	33.61%
2025	37.07%	10.45%	47.52%	18.76%	14.75%	33.51%
2026	37.68%	10.39%	48.07%	19.16%	14.20%	33.36%
2027	38.30%	10.35%	48.65%	19.61%	13.79%	33.40%
2028	38.96%	10.32%	49.28%	20.09%	13.45%	33.54%
2029	39.66%	10.30%	49.96%	20.65%	13.21%	33.86%
2030	40.42%	10.29%	50.71%	21.26%	13.01%	34.27%
2031	41.25%	10.30%	51.55%	21.96%	12.86%	34.82%



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6-Year Phase in Period
KERS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.59%	8.23%	19.82%	12.33%	16.65%	28.98%
2013	14.86%	8.76%	23.62%	13.41%	16.38%	29.79%
2014	20.07%	11.17%	31.24%	14.63%	17.32%	31.95%
2015	22.83%	11.34%	34.17%	15.35%	17.92%	33.27%
2016	25.59%	11.22%	36.81%	15.31%	17.81%	33.12%
2017	28.86%	11.10%	39.96%	15.68%	17.92%	33.60%
2018	31.73%	11.02%	42.75%	16.37%	18.00%	34.37%
2019	34.57%	10.93%	45.50%	16.98%	17.93%	34.91%
2020	35.26%	10.84%	46.10%	17.24%	17.45%	34.69%
2021	35.81%	10.75%	46.56%	17.53%	16.97%	34.50%
2022	36.33%	10.67%	47.00%	17.82%	16.47%	34.29%
2023	36.87%	10.58%	47.45%	18.11%	15.92%	34.03%
2024	37.41%	10.52%	47.93%	18.42%	15.37%	33.79%
2025	37.98%	10.45%	48.43%	18.85%	14.85%	33.70%
2026	38.59%	10.40%	48.99%	19.25%	14.30%	33.55%
2027	39.23%	10.35%	49.58%	19.70%	13.89%	33.59%
2028	39.89%	10.33%	50.22%	20.18%	13.56%	33.74%
2029	40.60%	10.31%	50.91%	20.74%	13.31%	34.05%
2030	41.37%	10.30%	51.67%	21.35%	13.12%	34.47%
2031	42.20%	10.30%	52.50%	22.05%	12.96%	35.01%



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4-Year Phase in Period
KERS Employer Contribution Rates
Without Ad Hoc COLA's

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.59%	8.23%	19.82%	12.33%	16.65%	28.98%
2013	14.86%	8.76%	23.62%	13.41%	16.38%	29.79%
2014	20.97%	11.22%	32.19%	14.63%	17.32%	31.95%
2015	25.02%	11.34%	36.36%	15.35%	17.92%	33.27%
2016	28.40%	11.22%	39.62%	15.03%	17.81%	32.84%
2017	31.81%	11.10%	42.91%	15.85%	18.86%	34.71%
2018	32.11%	11.02%	43.13%	15.68%	18.37%	34.05%
2019	32.21%	10.93%	43.14%	15.54%	17.87%	33.41%
2020	32.29%	10.84%	43.13%	15.37%	17.36%	32.73%
2021	32.36%	10.75%	43.11%	15.24%	16.87%	32.11%
2022	32.42%	10.67%	43.09%	15.10%	16.38%	31.48%
2023	32.47%	10.58%	43.05%	14.93%	15.82%	30.75%
2024	32.51%	10.51%	43.02%	14.76%	15.27%	30.03%
2025	32.57%	10.45%	43.02%	14.67%	14.75%	29.42%
2026	32.64%	10.39%	43.03%	14.53%	14.20%	28.73%
2027	32.71%	10.35%	43.06%	14.40%	13.79%	28.19%
2028	32.78%	10.32%	43.10%	14.26%	13.45%	27.71%
2029	32.86%	10.30%	43.16%	14.14%	13.21%	27.35%
2030	32.94%	10.29%	43.23%	14.00%	13.01%	27.01%
2031	33.03%	10.30%	43.33%	13.86%	12.86%	26.72%



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**6-Year Phase in Period
KERS Employer Contribution Rates
Without Ad Hoc COLA's**

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.59%	8.23%	19.82%	12.33%	16.65%	28.98%
2013	14.86%	8.76%	23.62%	13.41%	16.38%	29.79%
2014	20.07%	11.17%	31.24%	14.63%	17.32%	31.95%
2015	22.83%	11.34%	34.17%	15.35%	17.92%	33.27%
2016	25.29%	11.22%	36.51%	15.03%	17.81%	32.84%
2017	28.16%	11.10%	39.26%	15.06%	17.92%	32.98%
2018	30.58%	11.02%	41.60%	15.37%	18.00%	33.37%
2019	32.90%	10.93%	43.83%	15.59%	17.93%	33.52%
2020	33.14%	10.84%	43.98%	15.45%	17.45%	32.90%
2021	33.23%	10.75%	43.98%	15.33%	16.97%	32.30%
2022	33.30%	10.67%	43.97%	15.19%	16.47%	31.66%
2023	33.35%	10.58%	43.93%	15.02%	15.92%	30.94%
2024	33.40%	10.52%	43.92%	14.85%	15.37%	30.22%
2025	33.47%	10.45%	43.92%	14.75%	14.85%	29.60%
2026	33.54%	10.40%	43.94%	14.61%	14.30%	28.91%
2027	33.62%	10.35%	43.97%	14.49%	13.89%	28.38%
2028	33.70%	10.33%	44.03%	14.34%	13.56%	27.90%
2029	33.78%	10.31%	44.09%	14.22%	13.31%	27.53%
2030	33.87%	10.30%	44.17%	14.08%	13.12%	27.20%
2031	33.96%	10.30%	44.26%	13.94%	12.96%	26.90%



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4-Year Phase in Period
SPRS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014

Fiscal Year Ending June 30	Pension	Insurance	Total
2012	26.55%	25.58%	52.13%
2013	33.24%	30.43%	63.67%
2014	38.86%	31.65%	70.51%
2015	43.44%	31.90%	75.34%
2016	50.24%	31.29%	81.53%
2017	57.97%	30.92%	88.89%
2018	60.43%	30.94%	91.37%
2019	62.50%	30.82%	93.32%
2020	65.25%	30.95%	96.20%
2021	67.77%	30.95%	98.72%
2022	70.43%	30.98%	101.41%
2023	73.04%	30.99%	104.03%
2024	75.63%	30.95%	106.58%
2025	78.14%	30.79%	108.93%
2026	81.01%	30.71%	111.72%
2027	83.98%	30.66%	114.64%
2028	87.14%	30.69%	117.83%
2029	90.10%	30.70%	120.80%
2030	93.29%	30.92%	124.21%
2031	96.28%	31.04%	127.32%



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**6-Year Phase in Period
SPRS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014**

Fiscal Year Ending June 30	Pension	Insurance	Total
2012	26.55%	25.58%	52.13%
2013	33.24%	30.43%	63.67%
2014	38.86%	31.65%	70.51%
2015	43.44%	31.90%	75.34%
2016	47.45%	31.29%	78.74%
2017	52.17%	30.92%	83.09%
2018	57.58%	30.94%	88.52%
2019	63.09%	30.82%	93.91%
2020	66.10%	30.95%	97.05%
2021	68.67%	30.95%	99.62%
2022	71.35%	30.98%	102.33%
2023	73.98%	30.99%	104.97%
2024	76.59%	30.95%	107.54%
2025	79.12%	30.79%	109.91%
2026	82.02%	30.71%	112.73%
2027	85.01%	30.66%	115.67%
2028	88.19%	30.69%	118.88%
2029	91.17%	30.70%	121.87%
2030	94.38%	30.92%	125.30%
2031	97.38%	31.04%	128.42%



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**4-Year Phase in Period
SPRS Employer Contribution Rates
Without Ad Hoc COLA's**

Fiscal Year Ending June 30	Pension	Insurance	Total
2012	26.55%	25.58%	52.13%
2013	33.24%	30.43%	63.67%
2014	38.86%	31.65%	70.51%
2015	43.44%	31.90%	75.34%
2016	49.45%	31.29%	80.74%
2017	56.11%	30.92%	87.03%
2018	57.52%	30.94%	88.46%
2019	58.51%	30.82%	89.33%
2020	60.06%	30.95%	91.01%
2021	61.32%	30.95%	92.27%
2022	62.63%	30.98%	93.61%
2023	63.82%	30.99%	94.81%
2024	64.92%	30.95%	95.87%
2025	65.87%	30.79%	96.66%
2026	67.04%	30.71%	97.75%
2027	68.18%	30.66%	98.84%
2028	69.37%	30.69%	100.06%
2029	70.28%	30.70%	100.98%
2030	71.24%	30.92%	102.16%
2031	71.89%	31.04%	102.93%



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**6-Year Phase in Period
SPRS Employer Contribution Rates
Without Ad Hoc COLA's**

Fiscal Year Ending June 30	Pension	Insurance	Total
2012	26.55%	25.58%	52.13%
2013	33.24%	30.43%	63.67%
2014	38.86%	31.65%	70.51%
2015	43.44%	31.90%	75.34%
2016	46.70%	31.29%	77.99%
2017	50.50%	30.92%	81.42%
2018	54.82%	30.94%	85.76%
2019	59.08%	30.82%	89.90%
2020	60.89%	30.95%	91.84%
2021	62.18%	30.95%	93.13%
2022	63.52%	30.98%	94.50%
2023	64.73%	30.99%	95.72%
2024	65.85%	30.95%	96.80%
2025	66.82%	30.79%	97.61%
2026	68.01%	30.71%	98.72%
2027	69.18%	30.66%	99.84%
2028	70.39%	30.69%	101.08%
2029	71.32%	30.70%	102.02%
2030	72.29%	30.92%	103.21%
2031	72.96%	31.04%	104.00%



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I certify that I am a member of the American Academy of Actuaries and that I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please give me a call.

Sincerely,

A handwritten signature in black ink, written in a cursive style, that reads 'Thomas J. Cavanaugh'.

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



Cavanaugh Macdonald

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November 16, 2012

Mr. William A. Thielen
Executive Director
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Subject: Twenty-Year Rate Projection with Shortened Phase-in Periods

Dear Bill:

We have revised the results of twenty year projections of the KERS Non-Hazardous, KERS Hazardous and the SPRS Funds to reflect full payment of the Annual Required Contribution instead of the phase-in schedule required under House Bill 1 (HB1) beginning in Fiscal Year 2014 – 2015.

The projections were performed using the June 30, 2011 valuation results as a base, and projecting active and retired memberships for each of the funds over the twenty-year period assuming the active population remained constant in number. We then performed valuations of the populations annually to develop the contribution rates. The rates in future years assumed all actuarial assumptions were met each year and that funding was as currently budgeted under HB1 through the fiscal year ending June 30, 2014. For years after that, the rates are equal to 100% of the Annual Required Contribution. The changes in benefit structure for those hired on or after September 1, 2008 are also included in the projection. The insurance rates shown are net of the 1% member contributions paid into the 401(h) account by members hired on or after September 1, 2008. Even though these contributions are technically made to the pension funds, they were considered health care assets for purposes of the projections.

Since full payment of the Annual Required Contribution is assumed, The KERS non-hazardous and SPRS insurance rates reflect a 7.75% fully-funded interest rate.

Finally, the results were prepared under two COLA alternatives. The first reflects a 1.5% Ad-Hoc COLA beginning July 1, 2014 since the Legislature has suspended COLA's payable on July 1, 2012 and July 1, 2013. The second reflects no ad-hoc COLA's.

The tables below show the contribution rates and dollar amounts for each of the funds over the twenty-year period under the various alternatives. Please note that the dollar contributions are dependent on projected payroll. Actual contributions in the future will be based on actual membership statistics, including payroll, and financial information at the time of each annual valuation.

200 Main Street, Suite 201H, Hilton Head Island, SC 29926

Phone (843) 686-3088 • Fax (678) 388-1730

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**KERS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014**

Fiscal Year Ending June 30	Non-Hazardous Members				
	Pension	Insurance	Total	Projected Payroll	Total Contribution
2012	11.59%	8.23%	19.82%	\$1,759,478,772	\$348,728,693
2013	14.86	8.75	23.61	1,818,869,980	429,435,202
2014	17.29	9.50	26.79	1,883,396,304	504,561,870
2015	31.28	11.35	42.63	1,950,862,584	831,652,719
2016	32.16	11.32	43.48	2,021,386,137	878,898,692
2017	32.45	11.21	43.66	2,095,250,727	914,786,467
2018	32.95	11.13	44.08	2,173,206,913	957,949,607
2019	33.47	11.04	44.51	2,255,464,228	1,003,907,128
2020	33.98	10.95	44.93	2,342,153,780	1,052,329,693
2021	34.51	10.87	45.38	2,433,781,695	1,104,450,133
2022	35.03	10.79	45.82	2,530,327,104	1,159,395,879
2023	35.55	10.70	46.25	2,630,993,686	1,216,834,580
2024	36.08	10.63	46.71	2,735,661,333	1,277,827,409
2025	36.65	10.57	47.22	2,845,083,302	1,343,448,335
2026	37.24	10.51	47.75	2,959,741,884	1,413,276,749
2027	37.87	10.47	48.34	3,079,578,160	1,488,668,083
2028	38.52	10.45	48.97	3,204,233,560	1,569,113,174
2029	39.22	10.43	49.65	3,334,357,186	1,655,508,343
2030	39.98	10.42	50.40	3,470,823,639	1,749,295,114
2031	40.81	10.43	51.24	3,614,413,915	1,852,025,690



Mr. William A. Thielen
November 16, 2012
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**KERS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014**

Fiscal Year Ending June 30	Hazardous Members				
	Pension	Insurance	Total	Projected Payroll	Total Contribution
2012	12.33%	16.65%	28.98%	\$135,505,194	\$39,269,405
2013	13.41	16.38	29.79	140,708,890	41,917,178
2014	14.89	17.32	32.21	146,355,402	47,141,075
2015	17.25	20.14	37.39	151,985,154	56,827,249
2016	16.63	19.36	35.99	157,691,269	56,753,088
2017	16.36	18.72	35.08	163,749,640	57,443,374
2018	16.47	18.12	34.59	170,103,992	58,838,971
2019	16.69	17.61	34.30	176,757,563	60,627,844
2020	16.91	17.10	34.01	183,730,245	62,486,656
2021	17.20	16.61	33.81	191,043,219	64,591,712
2022	17.49	16.11	33.60	198,707,860	66,765,841
2023	17.78	15.56	33.34	206,681,063	68,907,466
2024	18.09	15.00	33.09	215,153,641	71,194,340
2025	18.51	14.48	32.99	224,276,732	73,988,894
2026	18.91	13.93	32.84	233,858,691	76,799,194
2027	19.36	13.52	32.88	243,817,716	80,167,265
2028	19.83	13.18	33.01	254,184,689	83,906,366
2029	20.39	12.93	33.32	265,090,960	88,328,308
2030	21.01	12.73	33.74	276,825,718	93,400,997
2031	21.71	12.58	34.29	289,562,659	99,291,036



Mr. William A. Thielen
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**SPRS Employer Contribution Rates
With Ad Hoc COLA's Beginning July 1, 2014**

Fiscal Year Ending June 30	Pension	Insurance	Total	Projected Payroll	Total Contribution
2012	26.55%	25.58%	52.13%	\$48,998,567	\$25,542,953
2013	33.24	30.43	63.67	49,908,485	31,776,732
2014	39.50	31.65	71.15	51,076,679	36,341,057
2015	54.30	31.90	86.20	52,188,131	44,986,169
2016	55.78	31.29	87.07	53,326,166	46,431,093
2017	57.24	30.92	88.16	54,492,297	48,040,409
2018	59.27	30.94	90.21	55,528,356	50,092,129
2019	61.29	30.82	92.11	56,563,666	52,100,793
2020	64.00	30.95	94.95	57,740,367	54,824,478
2021	66.48	30.95	97.43	59,050,396	57,532,800
2022	69.11	30.98	100.09	60,521,881	60,576,350
2023	71.68	30.99	102.67	62,108,460	63,766,756
2024	74.24	30.95	105.19	63,709,578	67,016,105
2025	76.72	30.79	107.51	65,335,314	70,241,996
2026	79.56	30.71	110.27	67,097,605	73,988,528
2027	82.49	30.66	113.15	69,093,939	78,179,792
2028	85.61	30.69	116.30	71,338,032	82,966,131
2029	88.55	30.70	119.25	73,814,309	88,023,563
2030	91.71	30.92	122.63	76,512,487	93,827,263
2031	94.68	31.04	125.72	79,505,634	99,954,483



Mr. William A. Thielen
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**KERS Employer Contribution Rates
No Ad Hoc COLA's**

Fiscal Year Ending June 30	Non-Hazardous Members				
	Pension	Insurance	Total	Projected Payroll	Total Contribution
2012	11.59%	8.23%	19.82%	\$1,759,478,772	\$348,728,693
2013	14.86	8.75	23.61	1,818,869,980	429,435,202
2014	17.29	9.50	26.79	1,883,396,304	504,561,870
2015	31.28	11.35	42.63	1,950,862,584	831,652,719
2016	31.78	11.32	43.10	2,021,386,137	871,217,425
2017	31.65	11.21	42.86	2,095,250,727	898,024,461
2018	31.73	11.13	42.86	2,173,206,913	931,436,483
2019	31.81	11.04	42.85	2,255,464,228	966,466,421
2020	31.88	10.95	42.83	2,342,153,780	1,003,144,464
2021	31.95	10.87	42.82	2,433,781,695	1,042,145,322
2022	32.01	10.79	42.80	2,530,327,104	1,082,980,001
2023	32.05	10.70	42.75	2,630,993,686	1,124,749,801
2024	32.09	10.63	42.72	2,735,661,333	1,168,674,521
2025	32.15	10.57	42.72	2,845,083,302	1,215,419,587
2026	32.22	10.51	42.73	2,959,741,884	1,264,697,707
2027	32.28	10.47	42.75	3,079,578,160	1,316,519,663
2028	32.35	10.45	42.80	3,204,233,560	1,371,411,964
2029	32.42	10.43	42.85	3,334,357,186	1,428,772,054
2030	32.50	10.42	42.92	3,470,823,639	1,489,677,506
2031	32.59	10.43	43.02	3,614,413,915	1,554,920,866



Mr. William A. Thielen
November 16, 2012
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**KERS Employer Contribution Rates
No Ad Hoc COLA's**

Fiscal Year Ending June 30	Hazardous Members			Projected Payroll	Total Contribution
	Pension	Insurance	Total		
2012	12.33%	16.65%	28.98%	\$135,505,194	\$39,269,405
2013	13.41	16.38	29.79	140,708,890	41,917,178
2014	14.89	17.32	32.21	146,355,402	47,141,075
2015	17.25	20.14	37.39	151,985,154	56,827,249
2016	16.32	19.36	35.68	157,691,269	56,264,245
2017	15.71	18.72	34.43	163,749,640	56,379,001
2018	15.45	18.12	33.57	170,103,992	57,103,910
2019	15.30	17.61	32.91	176,757,563	58,170,914
2020	15.13	17.10	32.23	183,730,245	59,216,258
2021	15.00	16.61	31.61	191,043,219	60,388,762
2022	14.86	16.11	30.97	198,707,860	61,539,824
2023	14.69	15.56	30.25	206,681,063	62,521,022
2024	14.52	15.00	29.52	215,153,641	63,513,355
2025	14.42	14.48	28.90	224,276,732	64,815,976
2026	14.28	13.93	28.21	233,858,691	65,971,537
2027	14.15	13.52	27.67	243,817,716	67,464,362
2028	14.01	13.18	27.19	254,184,689	69,112,817
2029	13.88	12.93	26.81	265,090,960	71,070,886
2030	13.74	12.73	26.47	276,825,718	73,275,767
2031	13.61	12.58	26.19	289,562,659	75,836,460



Mr. William A. Thielen
November 16, 2012
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**SPRS Employer Contribution Rates
No Ad Hoc COLA's**

Fiscal Year Ending June 30	Pension	Insurance	Total	Projected Payroll	Total Contribution
2012	26.55%	25.58%	52.13%	\$48,998,567	\$25,542,953
2013	33.24	30.43	63.67	49,908,485	31,776,732
2014	39.50	31.65	71.15	51,076,679	36,341,057
2015	54.30	31.90	86.20	52,188,131	44,986,169
2016	54.90	31.29	86.19	53,326,166	45,961,822
2017	55.38	30.92	86.30	54,492,297	47,026,852
2018	56.37	30.94	87.31	55,528,356	48,481,807
2019	57.30	30.82	88.12	56,563,666	49,843,902
2020	58.81	30.95	89.76	57,740,367	51,827,753
2021	60.04	30.95	90.99	59,050,396	53,729,955
2022	61.31	30.98	92.29	60,521,881	55,855,644
2023	62.47	30.99	93.46	62,108,460	58,046,567
2024	63.53	30.95	94.48	63,709,578	60,192,809
2025	64.46	30.79	95.25	65,335,314	62,231,886
2026	65.59	30.71	96.30	67,097,605	64,614,993
2027	66.70	30.66	97.36	69,093,939	67,269,859
2028	67.86	30.69	98.55	71,338,032	70,303,630
2029	68.74	30.70	99.44	73,814,309	73,400,949
2030	69.68	30.92	100.60	76,512,487	76,971,562
2031	70.31	31.04	101.35	79,505,634	80,578,960



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November 16, 2012
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I certify that I am a member of the American Academy of Actuaries and that I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please give me a call.

Sincerely,

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

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



Cavanaugh Macdonald

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November 30, 2011

Mr. William A. Thielen
Chief Operations Officer
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Subject: Twenty-Year Rate Projection Without Ad-Hoc COLA

Dear Bill:

This letter will serve to document the results of the requested twenty-year projection of employer contribution rates for each of the KRS funds.

The projections were performed using the June 30, 2011 valuation results as a base, and projecting active and retired memberships for each of the funds over the twenty-year period assuming the active population remained constant in number. We then performed valuations of the populations annually to develop the contribution rates. The rates in future years assumed all actuarial assumptions were met each year and that funding was as currently budgeted through the fiscal year ending June 30, 2012 and, for years after that, as required under House Bill 1 (HB1), including the changes in benefit structure for those hired on or after September 1, 2008. The insurance rates shown are net of the 1% member contributions paid into the 401(h) account by members hired on or after September 1, 2008. Even though these contributions are technically made to the pension funds, they were considered health care assets for purposes of the projections.

The KERS non-hazardous and SPRS insurance rates reflect a blending of results between the 4.50% interest rate used in the June 30, 2011 valuation and results at a 7.75% fully-funded interest rate. This blending was necessary to reflect the increasing portion of the ARC being contributed in accordance with HB1. In addition, the CERS insurance rates reflect the ten-year phase-in mandated by the Legislature that runs through the fiscal year ending June 30, 2018. The results assume no COLA is provided to retirees in the future.

The tables below show the contribution rates for each of the funds over the twenty-year period. The significant increase in KERS Non-Hazardous and SPRS Pension contribution rates is due almost entirely to the contribution shortfall generated in the early years of the projection as a result of the phase-in to full-funding called for under HB1.

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Mr. William A. Thielen
November 30, 2011
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KERS Employer Contribution Rates

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.59%	8.23%	19.82%	12.33%	16.65%	28.98%
2013	14.86%	8.75%	23.61%	13.41%	16.38%	29.79%
2014	17.07%	9.50%	26.57%	14.63%	17.32%	31.95%
2015	19.08%	10.24%	29.32%	15.35%	17.92%	33.27%
2016	20.66%	10.93%	31.59%	15.03%	17.81%	32.84%
2017	22.38%	11.28%	33.66%	15.06%	17.92%	32.98%
2018	24.30%	11.23%	35.53%	15.37%	18.00%	33.37%
2019	26.26%	11.15%	37.41%	15.59%	17.93%	33.52%
2020	28.25%	11.06%	39.31%	15.45%	17.45%	32.90%
2021	30.26%	10.97%	41.23%	15.33%	16.97%	32.30%
2022	32.24%	10.89%	43.13%	15.19%	16.47%	31.66%
2023	34.20%	10.81%	45.01%	15.02%	15.92%	30.94%
2024	36.09%	10.74%	46.83%	14.85%	15.37%	30.22%
2025	37.57%	10.67%	48.24%	14.75%	14.85%	29.60%
2026	37.80%	10.62%	48.42%	14.61%	14.30%	28.91%
2027	37.92%	10.58%	48.50%	14.49%	13.89%	28.38%
2028	38.03%	10.55%	48.58%	14.34%	13.56%	27.90%
2029	38.14%	10.54%	48.68%	14.22%	13.31%	27.53%
2030	38.26%	10.53%	48.79%	14.08%	13.12%	27.20%
2031	38.39%	10.54%	48.93%	13.94%	12.96%	26.90%



Mr. William A. Thielen
November 30, 2011
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CERS Employer Contribution Rates

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Pension	Insurance	Total	Pension	Insurance	Total
2012	11.70%	7.26%	18.96%	17.91%	17.85%	35.76%
2013	12.62%	6.93%	19.55%	20.10%	17.50%	37.60%
2014	13.21%	7.38%	20.59%	21.45%	18.70%	40.15%
2015	13.40%	7.84%	21.24%	22.03%	19.89%	41.92%
2016	12.89%	8.30%	21.19%	21.41%	21.09%	42.50%
2017	12.53%	8.76%	21.29%	21.10%	22.28%	43.38%
2018	12.45%	9.22%	21.67%	21.21%	23.48%	44.69%
2019	12.39%	8.12%	20.51%	21.32%	21.88%	43.20%
2020	12.32%	7.95%	20.27%	21.49%	21.56%	43.05%
2021	12.27%	7.83%	20.10%	21.62%	21.31%	42.93%
2022	12.20%	7.72%	19.92%	21.79%	21.08%	42.87%
2023	12.13%	7.62%	19.75%	21.94%	20.82%	42.76%
2024	12.08%	7.52%	19.60%	22.11%	20.56%	42.67%
2025	12.02%	7.44%	19.46%	22.22%	20.28%	42.50%
2026	11.97%	7.36%	19.33%	22.34%	20.00%	42.34%
2027	11.90%	7.30%	19.20%	22.46%	19.77%	42.23%
2028	11.85%	7.24%	19.09%	22.55%	19.65%	42.20%
2029	11.79%	7.20%	18.99%	22.67%	19.60%	42.27%
2030	11.73%	7.18%	18.91%	22.76%	19.60%	42.36%
2031	11.67%	7.15%	18.82%	22.84%	19.63%	42.47%



Mr. William A. Thielen
November 30, 2011
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SPRS Employer Contribution Rates

Fiscal Year Ending June 30	Pension	Insurance	Total
2012	26.55%	25.58%	52.13%
2013	33.24%	30.43%	63.67%
2014	38.86%	31.65%	70.51%
2015	43.44%	31.90%	75.34%
2016	46.70%	31.29%	77.99%
2017	50.50%	30.92%	81.42%
2018	54.82%	30.94%	85.76%
2019	57.90%	30.82%	88.72%
2020	60.89%	30.95%	91.84%
2021	62.27%	30.95%	93.22%
2022	63.62%	30.98%	94.60%
2023	64.83%	30.99%	95.82%
2024	65.95%	30.95%	96.90%
2025	66.92%	30.79%	97.71%
2026	68.12%	30.71%	98.83%
2027	69.29%	30.66%	99.95%
2028	70.50%	30.69%	101.19%
2029	71.43%	30.70%	102.13%
2030	72.41%	30.92%	103.33%
2031	73.07%	31.04%	104.11%

Again, the rates shown in the tables above for KERS and SPRS are the projected budgeted employer contribution rates after reflecting the reductions required under HB1. The rates shown for CERS reflect the ten-year phase-in of insurance contribution rates.



Mr. William A. Thielen
November 30, 2011
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I certify that I am a member of the American Academy of Actuaries and that I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please give me a call.

Sincerely,

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

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



Cavanaugh Macdonald

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November 30, 2011

Mr. William A. Thielen
Chief Operations Officer
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Subject: Twenty-Year Rate Projection With Ad-Hoc COLA's With Dollar Amounts

Dear Bill:

This letter will serve to document the results of the requested twenty-year projection of employer contribution rates for each of the KRS funds.

The projections were performed using the June 30, 2011 valuation results as a base, and projecting active and retired memberships for each of the funds over the twenty-year period assuming the active population remained constant in number. We then performed valuations of the populations annually to develop the contribution rates. The rates in future years assumed all actuarial assumptions were met each year and that funding was as currently budgeted through the fiscal year ending June 30, 2012 and, for years after that, as required under House Bill 1 (HB1), including the changes in benefit structure for those hired on or after September 1, 2008. The insurance rates shown are net of the 1% member contributions paid into the 401(h) account by members hired on or after September 1, 2008. Even though these contributions are technically made to the pension funds, they were considered health care assets for purposes of the projections.

The KERS non-hazardous and SPRS insurance rates reflect a blending of results between the 4.50% interest rate used in the June 30, 2011 valuation and results at a 7.75% fully-funded interest rate. This blending was necessary to reflect the increasing portion of the ARC being contributed in accordance with HB1. In addition, the CERS insurance rates reflect the ten-year phase-in mandated by the Legislature that runs through the fiscal year ending June 30, 2018. Finally, the results reflect the 1.5% COLA for all retirees as required under HB1.

The tables below show the contribution rates for each of the funds over the twenty-year period as well as the anticipated contribution amounts based on projected payrolls.

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Mr. William A. Thielen
November 30, 2011
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KERS Employer Contribution Rates and Dollar Amounts

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Total Employer Rate	Covered Payroll	Total Employer Contribution	Total Employer Rate	Covered Payroll	Total Employer Contribution
2012	19.82%	\$ 1,759,478,772	\$ 348,728,693	28.98%	\$ 135,505,194	\$ 39,269,405
2013	23.61%	1,818,869,980	429,435,202	29.79%	140,708,890	41,917,178
2014	26.79%	1,883,396,304	504,561,870	32.21%	146,355,402	47,141,075
2015	29.81%	1,950,862,584	581,552,136	33.83%	151,985,154	51,416,578
2016	32.40%	2,021,386,137	654,929,108	33.73%	157,691,269	53,189,265
2017	34.83%	2,095,250,727	729,775,828	34.24%	163,749,640	56,067,877
2018	37.11%	2,173,206,913	806,477,085	35.04%	170,103,992	59,604,439
2019	39.46%	2,255,464,228	890,006,184	35.62%	176,757,563	62,961,044
2020	41.86%	2,342,153,780	980,425,572	35.40%	183,730,245	65,040,507
2021	44.32%	2,433,781,695	1,078,652,047	35.23%	191,043,219	67,304,526
2022	46.84%	2,530,327,104	1,185,205,216	35.03%	198,707,860	69,607,363
2023	49.37%	2,630,993,686	1,298,921,583	34.78%	206,681,063	71,883,674
2024	51.90%	2,735,661,333	1,419,808,232	34.56%	215,153,641	74,357,098
2025	54.00%	2,845,083,302	1,536,344,983	34.48%	224,276,732	77,330,617
2026	54.73%	2,959,741,884	1,619,866,733	34.33%	233,858,691	80,283,689
2027	55.36%	3,079,578,160	1,704,854,469	34.37%	243,817,716	83,800,149
2028	56.01%	3,204,233,560	1,794,691,217	34.52%	254,184,689	87,744,555
2029	56.73%	3,334,357,186	1,891,580,832	34.81%	265,090,960	92,278,163
2030	57.50%	3,470,823,639	1,995,723,592	35.23%	276,825,718	97,525,700
2031	58.36%	3,614,413,915	2,109,371,961	35.75%	289,562,659	103,518,651



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CERS Employer Contribution Rates and Dollar Amounts

Fiscal Year Ending June 30	Non-Hazardous Members			Hazardous Members		
	Total Employer Rate	Covered Payroll	Total Employer Contribution	Total Employer Rate	Covered Payroll	Total Employer Contribution
2012	18.96%	\$ 2,302,701,219	\$ 436,592,151	35.76%	\$ 470,735,501	\$ 168,335,015
2013	19.55%	2,358,428,641	461,072,799	37.60%	480,013,246	180,484,980
2014	20.77%	2,420,129,643	502,660,927	40.48%	491,774,265	199,070,222
2015	21.62%	2,486,254,587	537,528,242	42.61%	504,359,285	214,907,491
2016	21.80%	2,556,356,600	557,285,739	43.59%	517,513,005	225,583,919
2017	22.13%	2,630,502,911	582,130,294	44.89%	531,555,136	238,615,101
2018	22.75%	2,708,943,067	616,284,548	46.66%	546,032,936	254,778,968
2019	21.85%	2,791,931,932	610,037,127	45.67%	560,957,829	256,189,441
2020	21.89%	2,880,005,812	630,433,272	46.05%	576,426,210	265,444,270
2021	22.01%	2,974,012,009	654,580,043	46.49%	592,408,912	275,410,903
2022	22.14%	3,073,188,414	680,403,915	47.06%	609,142,942	286,662,669
2023	22.30%	3,177,206,392	708,517,025	47.61%	626,971,512	298,501,137
2024	22.49%	3,286,823,685	739,206,647	48.25%	646,185,050	311,784,287
2025	22.72%	3,402,321,892	773,007,534	48.87%	666,839,164	325,884,299
2026	22.97%	3,523,926,509	809,445,919	49.56%	688,762,578	341,350,734
2027	23.27%	3,651,359,065	849,671,254	50.36%	711,944,103	358,535,050
2028	23.60%	3,785,043,585	893,270,286	51.32%	736,784,819	378,117,969
2029	24.01%	3,926,086,465	942,653,360	52.48%	763,569,060	400,721,043
2030	24.47%	4,075,512,706	997,277,959	53.77%	793,007,739	426,400,261
2031	24.97%	4,233,979,959	1,057,224,796	55.20%	825,367,911	455,603,087



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SPRS Employer Contribution Rates and Dollar Amounts

Fiscal Year Ending June 30	Total Employer Rate	Covered Payroll	Total Employer Contributions
2012	52.13%	\$ 48,998,567	\$ 25,542,953
2013	63.67%	49,908,485	31,776,732
2014	71.15%	51,076,679	36,341,057
2015	76.80%	52,188,131	40,080,485
2016	80.39%	53,326,166	42,868,905
2017	84.94%	54,492,297	46,285,757
2018	90.56%	55,528,356	50,286,479
2019	94.86%	56,563,666	53,656,294
2020	99.41%	57,740,367	57,399,699
2021	102.17%	59,050,396	60,331,790
2022	104.99%	60,521,881	63,541,923
2023	107.72%	62,108,460	66,903,233
2024	110.38%	63,709,578	70,322,632
2025	112.84%	65,335,314	73,724,368
2026	115.76%	67,097,605	77,672,188
2027	118.79%	69,093,939	82,076,690
2028	122.10%	71,338,032	87,103,737
2029	125.18%	73,814,309	92,400,752
2030	128.70%	76,512,487	98,471,571
2031	131.90%	79,505,634	104,867,931

Again, the rates shown in the tables above for KERS and SPRS are the projected budgeted employer contribution rates after reflecting the reductions required under HB1. The rates shown for CERS reflect the ten-year phase-in of insurance contribution rates.



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I certify that I am a member of the American Academy of Actuaries and that I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please give me a call.

Sincerely,

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

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



Cavanaugh Macdonald

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November 9, 2012

Mr. William A. Thielen
Executive Director
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Subject: Task Force Material

Dear Bill:

As requested, we have reviewed some of the material that was presented to the Kentucky Public Pension Task Force on October 29, 2012. Our comments follow.

First it should be noted that we have not had the opportunity to discuss the liability and cost information provided in the material by October 3, the actuarial firm utilized by the PEW Center, and, therefore, have no comment on the figures included in the material.

One of the options discussed was making some changes to the current cost-of-living-adjustments (COLAs) provided to retirees. As you know, 1.5% COLAs are currently granted on an annual basis unless the legislature votes to cancel a COLA, as they have done for the COLAs that would otherwise have been provided on July 1, 2012 and July 1, 2013. The suggested options and our comments are:

- Eliminate automatic COLAs – we agree completely, unless the legislature changes the statute to require pre-funding of the COLA (more commentary below).
- Provide a COLA as an optional form of benefit payment, similar to the way in which joint and survivor benefits are provided – this can certainly be an added option. A decision would have to be made as to whether the retiree could elect a COLA in addition to or only in lieu of other optional forms of benefit payment. If the number of COLA choices were limited (e.g., either a 2% annual COLA or a 3% annual COLA) the necessary factors can be developed fairly quickly and the additional programming burden should be limited. We would strongly suggest retirees not be allowed to pick whatever COLA they want.
- Increase member contribution rates to fund a COLA – this approach has some issues that we think outweigh its value. In order to provide this either (i) individual accounts would have to be maintained and the actual COLA determined differently for each retiree which would place a good deal of additional administrative burden on KRS and possible liability shifts between retirees and the system depending on how long each retiree collects a benefit, or (ii) member contribution rates would have to be raised to a level sufficient to actuarially fund the provided COLA which would benefit those close to retirement at the expense of those much further away from retirement.

200 Main Street, Suite 201H, Hilton Head Island, SC 29926

Phone (843) 686-3088 • Fax (678) 388-1730

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- Pre-fund the COLA – it appears the suggestion is to completely fund a COLA if it is granted. If the legislature eliminates automatic COLAs this would be the preferred method for financing any COLAs granted on an ad-hoc basis in the future. As a rough example, based on the June 30, 2011 valuation results, a 1.5% COLA for KERS Non-Hazardous retirees would cost approximately \$124 million or 7% of the active payroll. This would be in addition to the regularly required contribution amounts. If the legislature does not eliminate automatic COLAs then they should be pre-funded through the regular valuation process. We annually provide the impact on contribution rates if this were to be done.

In two of the three reform options proposed, the amortization period for the unfunded accrued liability (UAL) of each of the systems would be reset to 30 years from July 1, 2014 rather than the current 24 years from that date. As the material makes clear, the period would be reset (extended) but then be closed, as is the current period. In other words the period would decline one year annually. The impact of this recommendation is that the UAL would not be fully funded until 2044 rather than 2038 as it is scheduled now. As the material shows, while this provides some small contribution relief today (e.g., about 2% of payroll for KERS Non-Hazardous pensions), it increases the overall cost to employers because contributions have to be made for an additional 6 years.

With regard to the two proposals for benefit changes for new hires, we will need more specifics before being able to comment on the overall impact. We do agree with the material presented that, when properly designed, both cash balance and hybrid plans can shift some of the risk associated with retirement benefit delivery from employers to employees. At this point we would only note a little confusion with regard to each proposal. For the cash balance plan, the material indicates a fixed contribution rate for employers, but that is not how cash balance plans work. While employee contributions, if required, are fixed, it is only the pay credit from employers to each member's cash balance account that is fixed by formula. The actual required employer contribution rate is determined through an actuarial valuation process just as it is now for the KRS funds.

Our final comment is that the second proposal for new hires is labeled a "stacked hybrid" plan, but the description is actually a "conventional" hybrid design. A stacked hybrid provides a DB benefit for members up to a set salary level with the DC component only being provided on salaries above that set level.

Overall there are some good suggestions that have been made to the Public Pension Task Force. We look forward to analyzing any detailed proposals that emerge from their work. If you have any questions on the comments provided above, please give me a call.

Sincerely,

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

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