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February 9, 2015

Mr. Robert B. Barnes
Deputy Executive Secretary
Kentucky Teachers' Retirement System
479 Versailles Road
Frankfort, KY 40601-3800

Actuarial Impact – 15 RS BR 876 – House Bill 4 GA

Dear Beau:

We have prepared an actuarial analysis of the impact of 15 RS BR 876 - House Bill 4 (Act) on the Kentucky Teachers' Retirement System.

Section 1 of the Act amends the definitions of "financing agreement" and "funding notes" in KRS 56.8605 to include the finance of obligations owed under subsection (1)(b) of Section 4 of this Act .

Section 2 of the Act amends KRS 56.868 to permit the Kentucky Asset/Liability Commission to issue and sell funding notes to finance the obligations owed under subsection (1)(b) of Section 4 of this Act.

Section 3 of the Act authorizes funding notes in an amount not to exceed $3,300,000,000 in fiscal year 2015-2016 to finance the obligations owed under subsection (1)(b) of Section 4 of this Act.

Section 4 of the Act amends KRS 161.550 to add a new subsection (1)(b)1. which provides that effective July 1, 2015, and for each year thereafter, the state shall pay the additional contributions needed to fund the Kentucky Teachers' Retirement System pension fund on an actuarially sound basis as determined by the systems actuarial valuation completed in accordance with KRS 161.400. The amount payable under the provisions of this paragraph shall be in addition to the current employer contributions required by KRS 161.550 (1)(a) and shall be based upon the results of the actuarial valuation completed immediately prior to the budget biennium in which the contributions are payable.

Section 4 of the Act also amends KRS 161.550 to add a new subsection (1)(b)2. which provides that if funding for past statutory benefit improvements under subsections (1) and (2) of Section 5 of this Act is repurposed and utilized to fund debt service authorized by Sections 1, 2, and 3 of this Act, then the remaining amortized payments payable under the provisions of subsections (1) and (2) of Section 5 of this Act for any funds utilized to fund debt service shall be added to the amount payable by the state under subparagraph 1. of this paragraph for the duration of the remaining amortization period established by subsections (1) and (2) of Section 5 of this Act.

Section 4 of the Act also amends KRS 161.550 to add a new subsection (1)(c) which provides that it is the intent of the General Assembly to phase into the full contribution rate to the pension fund, as provided by paragraphs (a) and (b) of subsection (1), using the 2015-2016 fiscal year pension contributions from employers and the state as a base and incrementally increasing direct state appropriations to the pension fund on a pro rata basis beginning in fiscal year 2016-2017 and continuing to fiscal year 2024-2025; and to utilize proceeds from the funding notes authorized under Sections 1, 2, and 3 of this Act to pay the additional state appropriations required by paragraph (b) of subsection (1) for fiscal year 2015-2016, and for any state appropriations payable under paragraph (b) of subsection (1) that are not funded under the phase-in schedule of direct state appropriations established by subparagraph 1. of this paragraph.

Section 5 of the Act amends KRS 161.553 to allow the proceeds from the funding notes authorized by Sections 1, 2, and 3 of this Act to fund the cost of statutory benefit improvements for annuitants.

Section 6 of the Act amends the 2014 Kentucky Acts Chapter 117, Part I, Operating Budget to re-purpose two existing revenue streams, already in the current budget, as debt service to support a funding note in an amount of up to $3,300,000,000. One stream is the declining debt service on a series of three bonds issued in the years and in the amounts as follows: in 2010 in the amount of $467,555,000, in 2011 in the amount of $269,815,000, and in 2013 in the amount of $152,400,000. These bonds were issued in connection with HB 540 that was enacted during the 2010 Regular Session to preserve retired teachers' health insurance. The current budget states that it is the intent of the General Assembly that in future biennial budget bills to pledge lesser debt service funding requirements for these bonds to reduce the KTRS unfunded pension liability. Under the Act, this lesser debt service would be applied to both the debt service to support a bond of up to $3,300,000,000 and to the annual required contribution (ARC) for the pension fund. The amount available from this declining debt service would begin at $9,598,194 in FY 2017 and would grow to $116,436,562 in FY 2024 when all three bonds are paid off.

The second revenue stream is from the installment payments being made for certain past retirement benefit adjustments. These past adjustments were for Cost of Living Adjustments (COLA's) over and above the statutory 1.5%, sick leave liability, minimum benefit adjustments, and old medical insurance subsidy amortizations. Like the debt service on the three bonds, these installment payments are declining. This Act contemplates maintaining these dollars, in an amount of $116,798,700 per annum and already in the current budget, as debt service to help support the issuance of the funding note. As a result of the forfeiture of these dollars for debt service, the actuarial cost of these benefit adjustments, though declining, would become part of the new ARC required to be paid by the Commonwealth under this Act. The remaining cost of these benefit adjustments decrease to a projected $49,042,000 by FY 2026. The total ARC, even with this payment, is far less with the issuance of a bond than without and represents significant savings in future budgets and a more stabilized contribution rate.

This Act does not increase or decrease the benefits or increase or decrease participation in the benefits or change the actuarial accrued liability of KTRS. For purposes of this analysis, we have assumed that the funding note is issued in the full amount of $3,300,000,000.

We have provided a twenty-year projection of the impact of this Act on the KTRS Pension Plan stated as a percentage of payroll and in dollars starting July 1, 2015 in the attached Exhibits. The methods and assumptions used to determine the impact are the same as those used in the most recent actuarial valuation as of June 30, 2014. The calculations are based on amortization of the Unfunded Accrued Liability in accordance with the funding policy adopted by the Board and shown in the actuarial valuation report and on the assumption that the Annual Required Employer Contribution is made in accordance with this Act.

Projections are designed to identify anticipated trends rather than predicting some future state of events. The projections are based on KTRS' estimated financial status on June 30, 2014, and project future events using one set of assumptions out of a range of many possibilities. The projections do not predict KTRS' financial condition or its ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the DB Plan. Over time, a defined benefit plan's total cost will depend on a number of factors, including the amount of benefits paid, the number of people paid benefits, the duration of the benefit payments, plan expenses, and the amount of earnings on assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the time the projections were made. Because actual experience will not unfold exactly as expected, actual results can be expected to differ from the projections. To the extent that actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse that indicated in this study.

The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Edward J. Koebel

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

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Exhibit 1
Kentucky Teachers Retirement System
Current Funding Status

Fiscal Year	Total Employer Required Contributions	Employer Statutory Contributions	Additional ARC - Required	Amount of (3) Contributed for Amortized Benefit Payments	Additional ARC - Less Amortized Benefit Payments	Amount of (5) Contributed per Budget as Debt Service is Retired	Additional ARC - Required Without Funding Plan	Additional ARC in (7) as Percentage of Payroll	Funding Ratios Current Funding Additional ARC not made
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (3)-(4)	(6)	(7) = (5)-(6)	(8)	(9)
FY 2015-16	1,038,098,289	443,698,289	594,400,000	107,000,000	487,400,000	0	487,400,000	12.97%	51.9%
FY 2016-17	1,082,284,061	455,920,234	626,363,827	105,991,900	520,371,927	9,598,194	510,773,733	13.55%	53.6%
FY 2017-18	1,066,387,702	472,847,287	593,540,415	104,643,800	488,896,615	19,288,638	469,607,977	12.30%	55.4%
FY 2018-19	1,105,565,504	490,706,877	614,858,627	102,616,000	512,242,627	37,570,537	474,672,090	12.06%	55.9%
FY 2019-20	1,137,394,075	508,481,866	628,912,209	101,387,100	527,525,109	55,858,146	471,666,963	11.61%	56.8%
FY 2020-21	1,189,134,361	526,865,062	662,269,299	100,041,900	562,227,399	64,776,564	497,450,835	11.86%	57.0%
FY 2021-22	1,269,490,247	546,153,708	723,336,539	98,477,400	624,859,139	83,420,713	541,438,426	12.49%	56.2%
FY 2022-23	1,356,731,707	578,783,612	777,948,095	84,162,900	693,785,195	99,071,099	594,714,096	13.29%	55.4%
FY 2023-24	1,451,232,415	611,879,300	839,353,115	69,936,000	769,417,115	116,436,562	652,980,553	14.12%	54.5%
FY 2024-25	1,553,813,881	642,365,751	911,448,130	59,022,100	852,426,030	116,436,562	735,989,468	15.40%	53.7%
FY 2025-26	1,664,874,078	672,384,865	992,489,213	49,042,000	943,447,213	116,436,562	827,010,651	16.75%	52.8%
FY 2026-27	1,785,697,296	704,133,073	1,081,564,223	38,101,200	1,043,463,023	116,436,562	927,026,461	18.17%	51.9%
FY 2027-28	1,919,187,604	736,180,790	1,183,006,814	27,497,400	1,155,509,414	116,436,562	1,039,072,852	19.70%	51.0%
FY 2028-29	2,066,019,750	761,245,163	1,304,774,587	24,809,700	1,279,964,887	116,436,562	1,163,528,325	21.33%	49.9%
FY 2029-30	2,228,574,406	786,812,992	1,441,761,414	22,454,700	1,419,306,714	116,436,562	1,302,870,152	23.10%	48.8%
FY 2030-31	2,407,937,476	813,517,613	1,594,419,863	19,980,500	1,574,439,363	116,436,562	1,458,002,801	24.98%	47.6%
FY 2031-32	2,606,418,967	841,636,751	1,764,782,216	17,256,600	1,747,525,616	116,436,562	1,631,089,054	26.98%	46.3%
FY 2032-33	2,826,466,470	871,669,226	1,954,797,244	13,888,300	1,940,908,944	116,436,562	1,824,472,382	29.13%	44.9%
FY 2033-34	3,068,600,445	903,893,155	2,164,707,290	9,448,000	2,155,259,290	116,436,562	2,038,822,728	31.41%	43.4%
FY 2034-35	3,335,984,101	937,532,262	2,398,451,839	4,920,700	2,393,531,139	116,436,562	2,277,094,577	33.82%	41.8%

Exhibit 2

Kentucky Teachers Retirement System

Funding Status Under Proposed House Bill 4

Fiscal Year	Additional ARC Projected Under House Bill 4 (1)	Retired Debt Service (2)	Projected ARC Increase Due to Loss of Amortized Benefit Payments (3)	Adjusted ARC Required (4) = (1)-(2)+(3)	Amount of (4) Covered by Bond (5)	Phase in Amount of ARC to be Contributed Under House Bill 4 (6)	Additional ARC in (7) as Percentage of Payroll (7)	Funding Ratios Under House Bill 4 (8)
FY 2015-16	487,400,000	0	0	487,400,000	487,400,000	0	0.00%	51.9%
FY 2016-17	520,371,927	0	105,991,900	626,363,827	626,363,827	44,000,000	1.17%	53.6%
FY 2017-18	245,020,786	0	104,643,800	349,664,586	349,664,586	88,000,000	2.31%	66.0%
FY 2018-19	240,962,712	0	102,616,000	343,578,712	343,578,712	132,000,000	3.35%	66.9%
FY 2019-20	230,436,623	0	101,387,100	331,823,723	331,823,723	176,000,000	4.33%	68.1%
FY 2020-21	233,701,986	0	100,041,900	333,743,886	333,743,886	220,000,000	5.24%	68.7%
FY 2021-22	259,996,868	0	98,477,400	358,474,268	358,474,268	264,000,000	6.09%	68.4%
FY 2022-23	285,570,938	0	84,162,900	369,733,838	369,733,838	308,000,000	6.88%	68.2%
FY 2023-24	310,726,143	0	69,936,000	380,662,143	99,217,161	354,870,269	7.67%	68.1%
FY 2024-25	335,427,731	0	59,022,100	394,449,831		394,449,831	8.26%	68.1%
FY 2025-26	359,408,462	0	49,042,000	408,450,462		408,450,462	8.27%	68.1%
FY 2026-27	382,688,150	0	38,101,200	420,789,350		420,789,350	8.25%	68.3%
FY 2027-28	403,980,014	0	27,497,400	431,477,414		431,477,414	8.18%	68.6%
FY 2028-29	424,837,089	0	24,809,700	449,646,789		449,646,789	8.24%	69.0%
FY 2029-30	446,212,882	0	22,454,700	468,667,582		468,667,582	8.31%	69.8%
FY 2030-31	469,938,334	0	19,980,500	489,918,834		489,918,834	8.39%	70.2%
FY 2031-32	493,248,323	0	17,256,600	510,504,923		510,504,923	8.45%	70.7%
FY 2032-33	518,577,801	0	13,888,300	532,466,101		532,466,101	8.50%	71.2%
FY 2033-34	544,008,218	0	9,448,000	553,456,218		553,456,218	8.53%	71.8%
FY 2034-35	570,273,101	0	4,920,700	575,193,801		575,193,801	8.54%	72.4%