BPS&M

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

TO: Board of Trustees, Judicial and Legislators Retirement Plans

FROM: BPS&M – Ken Hohman

DATE: April 3, 2015

RE: Proposed Changes to "Past Service Contribution"

At the Board meeting last week I was asked to offer language to fund unfunded liabilities on a more actuarially sound basis.

KRS Section 21.525 I believe reads as follows:

21.525 Contributions by state -- Normal contributions -- Past service liability contribution -- Employer costs for hybrid cash balance plan.

1) The state, by appropriation to the Judicial Retirement Board, shall contribute annually to the Judicial Retirement System an amount equal to the percent as computed under subsection (2) of this section of the creditable compensation of active members of the Judicial Retirement System, to be known as the "normal contributions," and an additional amount equal to one percent (1%) of the unfunded past service liabilities, plus annual interest accruing thereon at the actuarially assumed rate of interest adopted by the board to be known as the "past service contribution."
2) The normal contribution rate shall be determined either by the entry age normal cost funding method or the unit credit actuarial method, as selected by the board. The past service liability shall be determined by actuarial methods consistent with the methods prescribed for determining the normal contribution rate. The board shall adopt the actuarial assumptions that are to be used in making the determinations.
3) Normal contributions and the past service liability contribution for each fiscal biennium shall be determined on the basis of the actuarial valuation last preceding the commencement of the biennium.
4) Employer costs for the hybrid cash balance plan as provided by KRS 21.402 shall be incorporated into the employer contribution rate of the Legislators' Retirement Plan and the Judicial Retirement Plan as a new benefit tier within the plans.

Our concern has been with the final phrase of subparagraph (1); i.e.,

> *and an additional amount equal to one percent (1%) of the unfunded past service liabilities, plus annual interest accruing thereon at the actuarially assumed rate of interest adopted by the board to be known as the "past service contribution."*

As we have discussed since our involvement with the plans, this is essentially equivalent to 25-year, level dollar, rolling amortization of the full unfunded liability. There are several facets to be considered when designing an appropriate amortization policy; these include the following:

- **Rolling vs. Fixed**
  Under a rolling amortization, the unfunded amount is recalculated every year (or at each valuation date) and amortized over the same number of years (e.g., 25 years); therefore, absent offsetting actuarial gains, the unfunded amount is never fully amortized. Under a fixed amortization, there is a clear ending date when the liability will be fully paid off.

The attached Exhibit A shows the annual payment and the remaining balance for a number of years if a $155,000,000 (approximately the unfunded liability in the Judicial Plan at shown in the 2013 actuarial valuation) is amortized over a rolling 25 year period (essentially equivalent to the current methodology) versus a fixed 25 year period. As can be seen, under the fixed approach, the $155MM is completely eliminated after 25 years, but at that point in time, there is still a balance of $104MM under the rolling method. Even after 45 years, there is still over $75MM remaining under the rolling method.

We have stated in our reports that the rolling approach being used is not appropriate for the Judicial and Legislators' plans and strongly recommend a fixed period approach.

- **Level Dollar vs. Level Percent of Pay**
  Frequently governments prefer to budget benefit costs as a percentage of payroll, and it is therefore sometimes desirable for the amortization method to maintain a cost that is relatively level as a percentage of payroll. However, the level percent of pay approach to amortizing a liability can result in a "negative" amortization – that is, an amortization payment that does not even cover the interest on the remaining liability.

  Exhibit B shows the annual payment and the remaining balance using a 25-year level amount amortization and a 25-year level percent of pay amortization of a $155MM amount. The level percent of pay approach uses the salary increase assumption currently being used by the Judicial and Legislators' plans. You will note that using level percent of pay results in a negative amortization for the first three years (i.e., the outstanding balance is growing).

  We believe a level percent of pay approach that results in negative amortizations is not appropriate for the Judicial and Legislators' plans and recommend the stronger level dollar approach.

- **Separate Amortization Period by Source of Liability**
  It is generally considered appropriate to determine separate liability amortization bases determined by the source of the liability. By examining the liability by source, we can attempt to amortize the liability over an appropriate time period to make sure sufficient funds are set aside to provide the benefits underlying the liability. For example, the initial liability associated with the establishment of the plan might be amortized over a long period, such as 30 years. Amendments that increase (or decrease) liabilities could be amortized over 20-25 years (unless the demographics of the group affected by the amendment would dictate a shorter period). A change in actuarial methods or assumptions might be amortized over a somewhat shorter period, e.g., 15-20 years. Actuarial gains and losses are typically amortized over an even shorter period on the theory that gains and losses over a period of years should balance each other out resulting in relatively small costs, e.g., 5-15 years.

  There is a natural tension between using a longer period to dampen volatility in the amortization cost versus using a shorter period to assure generational equity.

> *We recommend that the unfunded liability as of the first valuation date following the effective date of this revised statute be amortized over 25 years from such valuation date (this maintains consistency with the current statute). Liabilities associated with future amendments would be amortized over 20 years. (Note liabilities for changes to benefit increases for currently retired participants could be amortized over an even shorter period but we are ignoring this possibility.) Liabilities related to changes in actuarial methods and assumptions would be amortized over 15 years, and gains and losses would be amortized over 10 years. As the Traditional Plan piece of the plan has an older participant group (since no new participants will join this part of the plan), shorter amortization period may become necessary.*

The following is our suggested wording replacing 21.525(1):

1) The state, by appropriation to the Judicial Retirement Board, shall contribute annually to the Judicial Retirement System an amount equal to the percent as computed under subsection (2) of this section of the creditable compensation of active members of the Judicial Retirement System, to be known as the "normal contributions." In addition, unfunded liability bases will be established each year and the state shall, in addition to the normal contribution, contribute the sum of the following amounts, to be known as the “past service contribution”:
    a. The full unfunded past service liability (positive or negative) determined as of the first actuarial valuation date following the effective date of this provision, to be amortized over 25 years beginning on such valuation date;
    b. The liability (positive or negative) associated with any amendment to the benefits provided by the System, to be amortized over 20 years beginning with the actuarial valuation date coincident with or next following the effective date of such amendment;
    c. The liability (positive or negative) associated with a change in actuarial methods or actuarial assumptions, to be amortized over 15 years beginning with the actuarial valuation date for which such change becomes effective, and
    d. Any actuarial gains and losses generated since the previous actuarial valuation date, to be amortized over 10 years beginning with the actuarial valuation date in which such gains and losses are first recognized.

cc: Wes Wickenheiser, Alan Pennington, Alan Pauw

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EXHIBIT A

25-YEAR ROLLING VS. FIXED AMORTIZATION (Level Dollar)

Starting Balance of $155,000,000

	- - Rolling Amortization - -		- - Fixed Amortization - -	
Year	**Amortization Payment**	**Remaining Balance**	**Amortization Payment**	**Remaining Balance**
1	$ 12,430,495	$ 152,549,370	$ 12,430,495	$ 152,549,370
2	12,233,963	150,137,485	12,430,495	149,927,195
3	12,040,538	147,763,733	12,430,495	147,121,469
4	11,850,170	145,427,512	12,430,495	144,119,341
5	11,662,813	143,128,228	12,430,495	140,907,065
6	11,478,418	140,865,297	12,430,495	137,469,929
7	11,296,938	138,638,144	12,430,495	133,792,194
8	11,118,328	136,446,203	12,430,495	129,857,017
9	10,942,541	134,288,918	12,430,495	125,646,378
10	10,769,534	132,165,741	12,430,495	121,140,995
11	10,599,262	130,076,133	12,430,495	116,320,234
12	10,431,682	128,019,563	12,430,495	111,162,020
13	10,266,752	125,995,508	12,430,495	105,642,732
14	10,104,430	124,003,453	12,430,495	99,737,094
15	9,944,673	122,042,895	12,430,495	93,418,060
16	9,787,443	120,113,334	12,430,495	86,656,695
17	9,632,698	118,214,281	12,430,495	79,422,033
18	9,480,401	116,345,252	12,430,495	71,680,946
19	9,330,511	114,505,773	12,430,495	63,397,982
20	9,182,990	112,695,378	12,430,495	54,535,211
21	9,037,802	110,913,606	12,430,495	45,052,045
22	8,894,910	109,160,005	12,430,495	34,905,058
23	8,754,277	107,434,129	12,430,495	24,047,780
24	8,615,867	105,735,540	12,430,495	12,430,495
25	8,479,646	104,063,807	12,430,495	-
26	8,345,579	102,418,504		
27	8,213,631	100,799,214		
28	8,083,769	99,205,526		
29	7,955,960	97,637,036		
30	7,830,172	96,093,344		
31	7,706,373	94,574,059		
32	7,584,532	93,078,794		
33	7,464,616	91,607,170		
34	7,346,597	90,158,813		
35	7,230,443	88,733,356		
36	7,116,126	87,330,436		
37	7,003,617	85,949,696		
38	6,892,886	84,590,787		
39	6,783,906	83,253,363		
40	6,676,649	81,937,084		
41	6,571,087	80,641,617		
42	6,467,195	79,366,632		
43	6,364,946	78,111,804		
44	6,264,312	76,876,816		
45	6,165,270	75,661,354		

EXHIBIT B
LEVEL DOLLAR VS. LEVEL PCT. OF PAY
Starting Balance of $155,000,000

	- - Level Dollar - -		- - Level Pct. of Pay - -	
Year	**Amortization Payment**	**Remaining Balance**	**Amortization Payment**	**Remaining Balance**
1	12,430,495	152,549,370	9,936,552	155,217,889
2	12,430,495	149,927,195	10,035,918	155,344,709
3	12,430,495	147,121,469	10,136,277	155,373,022
4	12,430,495	144,119,341	10,237,640	155,294,859
5	12,430,495	140,907,065	10,340,016	155,101,682
6	12,430,495	137,469,929	10,443,416	154,784,344
7	12,430,495	133,792,194	10,808,936	154,053,686
8	12,430,495	129,857,017	11,187,249	152,867,088
9	12,430,495	125,646,378	11,578,802	151,178,466
10	12,430,495	121,140,995	11,984,061	148,938,014
11	12,430,495	116,320,234	12,403,503	146,091,927
12	12,430,495	111,162,020	12,837,625	142,582,102
13	12,430,495	105,642,732	13,286,942	138,345,822
14	12,430,495	99,737,094	13,751,985	133,315,405
15	12,430,495	93,418,060	14,233,305	127,417,847
16	12,430,495	86,656,695	14,731,470	120,574,423
17	12,430,495	79,422,033	15,247,072	112,700,266
18	12,430,495	71,680,946	15,780,719	103,703,915
19	12,430,495	63,397,982	16,333,044	93,486,832
20	12,430,495	54,535,211	16,904,701	81,942,880
21	12,430,495	45,052,045	17,496,366	68,957,771
22	12,430,495	34,905,058	18,108,738	54,408,465
23	12,430,495	24,047,780	18,742,544	38,162,535
24	12,430,495	12,430,495	19,398,533	20,077,482
25	12,430,495	-	20,077,482	-