

KENTUCKY RETIREMENT SYSTEMS
BOARD OF TRUSTEES
SPECIAL CALLED MEETING
JULY 12, 2017 AT 9:00 A.M., ET
1270 LOUISVILLE ROAD, FRANKFORT, KENTUCKY 40601

1. Roll Call
2. Introduction and Oath of Office of Newly Appointed Trustees—Leigh Taylor
3. [Approval of Minutes – May 18, 2017*](#)
4. [Setting the Economic Actuarial Assumption Rates:*](#)
 - KERS Hazardous Pension Fund
 - CERS Nonhazardous and CERS Hazardous Pension Funds
 - All KRS Insurance Funds
5. [KRS Bylaws* - Mark Blackwell](#)
6. [Asset Allocation Approval* - David Harris/Rich Robben](#)
7. [Review and Approval of the Investment Procurement Policy* - Mark Blackwell/Rich Robben](#)
8. [Review and Approval of the Investment Policy Statement—Rich Robben](#)
9. [Public Comment--](#)
10. Pending Litigation* - KRS Legal Staff (**Closed Session**)
11. Adjourn

**Board Action required*

MINUTES OF MEETING #410
BOARD OF TRUSTEES KENTUCKY RETIREMENT SYSTEMS
QUARTERLY MEETING MAY 18, 2017 AT 10:00A.M.
1270 LOUISVILLE ROAD, FRANKFORT, KENTUCKY 40601

At the Quarterly Meeting of the Board of Trustees held on May 18, 2017, the following members were present: John Farris (Chair), John Chilton, William Cook, Thomas Elliott (non-voting), JT Fulkerson, David Harris, Vince Lang, Keith Percy, Betty Pendergrass, Mary Helen Peter, Jerry Powell, Neil Ramsey, David Rich, and Secretary Thomas Stephens. Staff members present were David Eager, Karen Roggenkamp, Rebecca Stephens, Rich Robben, Connie Davis, Connie Pettyjohn, Joe Gilbert, Shawn Sparks, Katherine Rupinen, Joseph Bowman, Shaun Case, Ann Case, Angela Hawkins, Brian Huffman, and Leigh Taylor. Also present were Larry Totten, Ed Davis, Jim Carroll, Doug Price, Shellie Hampton, Michael Kurtsinger, Damian Stanton, Brad Gross, Tom Loftis, John Cheeves, Kevin Wheatley, Teresa Sanders, Jacqueline Pitts, Michile Hill, Eric Kennedy, Steve Starkweather, Adam Beam, Jonathan Eden, Zach Ireland, Collin Johnson, Tracey Garrison, Larry Low, Fred Nett, Rose Nett, Bo Cracraft, Representative Jerry Miller, and Jodi Whitaker. Glenn Bowen of Milliman and Danny White of Gabriel Roeder Smith were also in attendance.

Mr. Farris introduced agenda item *Approval of Minutes – April 20, 2016*. Ms. Peter moved and was seconded by Mr. Chilton to accept the minutes as presented. The motion passed unanimously.

Mr. Farris introduced agenda item *Actuarial Assumptions* and introduced Glenn Bowen of Milliman and Danny White of Gabriel Roeder Smith. Mr. Bowen presented *KRS Investment Return Assumptions and Funding Methodology Review* to the Board. Using an annualized inflation of 2.30% and Milliman's capital return assumptions, Milliman estimated investment return rates for KERS (non-hazardous) and SPRS pensions at 5.15% (10 year) and 5.90% (30 year); for CERS (hazardous and non-hazardous) and KERS (hazardous) at 6.25% (10 year) and 6.70% (30 year) for pension and all insurance plans. Mr. Harris briefly discussed recent asset and liability assumption studies reviewed by the Investment Committee. Following his presentation, Mr. Harris moved and was seconded by Secretary Stephens to set the investment return assigned rate at 5.25% for KERS (nonhazardous) and SPRS pensions, and at 6.25% for all other Systems

with a 0% payroll growth rate and 2.3% inflation rate. During discussion, Mr. Lang proposed amending the motion in order to separately discuss the Systems and was seconded by Mr. Powell; the motion carried by majority. Mr. Farris provided a motion and was seconded by Mr. Lang to set the inflation rate at 2.3% for KERS (nonhazardous) and SPRS. The motion carried by majority. Following discussion on the amended motion, Mr. Harris moved and was seconded by Secretary Stephens to set the investment return assigned rate at 5.25% for KERS (nonhazardous) and SPRS, with a 0% payroll growth rate and 2.3% inflation rate. The motion passed by majority; Ms. Peter and Ms. Pendergrass dissented. Mr. Harris moved and was seconded by Mr. Hardesty to set the investment return assigned rate at 6.25 % for CERS (hazardous and nonhazardous) and KERS (hazardous), with a 0% payroll growth rate and 2.3% inflation. Mr. Fulkerson moved to amend the motion to set the investment return assigned rate at 6.25% for CERS (hazardous and nonhazardous) with 2% payroll growth rate and 2.3% inflation rate and was seconded by Ms. Pendergrass. Secretary Stephens remarked: “we haven’t been doing this right, for whatever reason and it’s time to get right. I would rather give the absolute most conservative numbers to the Legislature and let them have a chance to gnaw on it and come up with a fix than mess around with it. I trust the information that has been given to us by the Investment Committee and think it has been a heartfelt change in the way that Board has operated, having been here on both sides of it; I am sticking with my vote up and down on the entire investment recommendation.” Mr. Farris agreed with the statement. A roll call vote on Mr. Fulkerson’s amended motion passed 8-6. Ms. Pendergrass moved and was seconded by Mr. Lang to discuss each of the rates for each CERS plan separately. The motion passed by majority. Mr. Lang moved and was seconded by Ms. Pendergrass to approve the inflation rate of 2.3% for CERS (hazardous and nonhazardous). The motion passed by majority. Mr. Cook moved and was seconded by Mr. Harris to approve the investment return rate at 6.25% for CERS (hazardous and nonhazardous). Following discussion, Mr. Farris moved and was seconded by Mr. Powell to table discussion on CERS (hazardous and nonhazardous) and KERS (hazardous) with regards to investment return assigned rates and payroll growth rates until a special called meeting. The motion passed by majority.

Mr. Farris called for a short break and the meeting was suspended. *Mr. Harris and Mr. Ramsey exited the meeting during the break.*

Mr. Farris called the meeting back into session and clarified the previously made motions: rates of 5.25% for KERS (nonhazardous) and SPRS with a 0% payroll growth rate and 2.3% inflation rate; CERS (hazardous and nonhazardous) 2.3% inflation rate; all other actions have been tabled. Mr. Farris noted that all motions were for pensions only, not insurance.

Mr. Bowen concluded the Milliman study and answered questions from the Board. Ms. Pendergrass moved and was seconded by Ms. Peter to refer the actuary studies to the KRS Legislative Committee to review and develop proposed legislation for the potential special legislative session. The motion passed by majority; Mr. Cook and Secretary Stephens dissented.

Mr. Farris introduced agenda item *Audit Committee Report*. Ms. Davis and Mr. Chilton reviewed items from the May 4, 2017 meeting. Ms. Pendergrass moved and was seconded by Ms. Peter to only include GASB standards for the Audit Charter. The motion carried. Ms. Peter moved and was seconded by Mr. Powell to ratify the actions of the Audit Committee. The motion passed unanimously.

Mr. Farris introduced agenda item *Retiree Health Plan Committee Report*. Ms. Pettyjohn and Mr. Hardesty reviewed items from the May 9, 2017 meeting. Mr. Hardesty moved and was seconded by Mr. Lang to ratify the actions of the Retiree Health Plan Committee. The motion passed unanimously.

Mr. Farris introduced agenda item *Participation of Additional Agencies and Hazardous Positions*. Ms. Roggenkamp provided a detailed review of the submission. Secretary Stephens noted his preference for future discussions regarding random position audits. Mr. Lang moved and was seconded by Mr. Rich to approve the positions based on representations made by the applications. The motion passed unanimously.

Mr. Farris introduced agenda item *Contract Approvals*. Ms. Roggenkamp reviewed the Printing Services RFP. Mr. Powell moved and was seconded by Mr. Cook to enter into a thirty-six month contract with Thoroughbred Printing, LLC, beginning July 1, 2017 through June 30, 2020. The

motion passed unanimously. Ms. Roggenkamp reviewed the Fiduciary Liability Insurance terms. Secretary Stephens moved and was seconded by Ms. Peter to approve obtaining \$2.5M in coverage through Hallmark Specialty and \$2.5M in coverage through ANV Global Services. The motion passed unanimously. Mr. Bowman discussed the Hearing Officers Renewals. Ms. Peter moved and was seconded by Mr. Fulkerson to accept the renewal contracts. The motion passed with Mr. Powell abstaining.

Mr. Farris introduced agenda item *KRS Bylaws*; Mr. Eager highlighted the proposed changes and suggested they be reviewed in depth by the Trustees and discussed at the next Board meeting. This item was presented for information only.

Mr. Farris introduced agenda item *Executive Director Search Update*. Mr. Farris noted the Trustee responses indicated support for Mr. Eager and due to the pending special legislative session, Mr. Eager would remain in the capacity of Interim Executive Director.

Mr. Farris noted the *2017-2018 Committee Assignments* which were previously supplied to the Trustees. Mr. Eager noted the *KRS Update* had been emailed to the Trustees. These items were provided for informational purpose only.

As there were no Public Comments, Mr. Lang moved and was seconded by Ms. Pendergrass to enter closed session; the motion passed unanimously. Mr. Farris read the following statement and the meeting moved into closed session: A motion having been made in open session to move into a closed session for a specific purpose, and such motion having carried by majority vote in open, public session, the Board shall now enter closed session to consider litigation, pursuant to KRS 61.810(1)(c), because of the necessity of protecting the confidentiality of the Systems' litigation strategy and preserving any available attorney-client privilege. *Attendees remaining during closed session: all remaining Trustees, Mr. Eager, Ms. Roggenkamp, Ms. Stephens, Mr. Bowman, Ms. Rupinen, Mr. Robben, and Ms. Taylor.*

There being no further business, the meeting adjourned at 12:45 a.m. to meet on September 14, 2017 or upon the call of the Interim Executive Director or the Chair of the Board of Trustees.

Mr. Farris introduced the agenda item *Perimeter Park West Inc., Annual Shareholder Meeting* and then called the meeting to order. All members of the shareholder, excepting Mr. Harris, Mr. Fulkerson, and Mr. Ramsey were present. Ms. Roggenkamp introduced the PPW meeting agenda. Mr. Lang moved and was seconded by Mr. Hardesty to approved the May 19, 2016 Shareholder Annual Meeting Minutes. The motion passed unanimously. Mr. Rich moved and was seconded by Secretary Stephens to elect Mr. Peercy as Chair and Mr. Lang, Mr. Powell, and Mr. Hardesty as members by acclamation to serve on the KRS Perimeter Park West, Inc. Board from May 18, 2017 for a one year term or until their successors are elected. The motion passed unanimously. Mr. Peercy moved and was seconded by Mr. Powell to approve the PPW Corporate Share Allocation as presented. The motion passed unanimously. Mr. Lang moved and was seconded by Mr. Hardesty to ratify the agent actions of the PPW Board. The motion passed unanimously. Mr. Peercy moved and was seconded by Mr. Powell to adjourn the PPW Annual Shareholder Meeting; the motion passed unanimously and the meeting adjourned at 1:00 p.m.

Copies of all documents presented are incorporated as part of the Minutes of the Board of Trustees as of May 18, 2017.

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CERTIFICATION

I do certify that I was present at this meeting, and I have recorded the above actions of the Directors on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in conjunction with this meeting.

Recording Secretary

We, the Chair of the Board of Directors of the Kentucky Retirement Systems and Executive Director of the Kentucky Retirement Systems, do certify that the Minutes of Meeting Number 409, held on April 20, 2017, were approved on May 18, 2017.

Chair of the Board of Directors

Interim Executive Director

I have reviewed the Minutes of the April 20, 2017 Annual Board of Trustees Meeting for content, form, and legality.

Executive Director
Office of Legal Services



Economic Assumptions FISCAL YEAR 2017 VALUATIONS

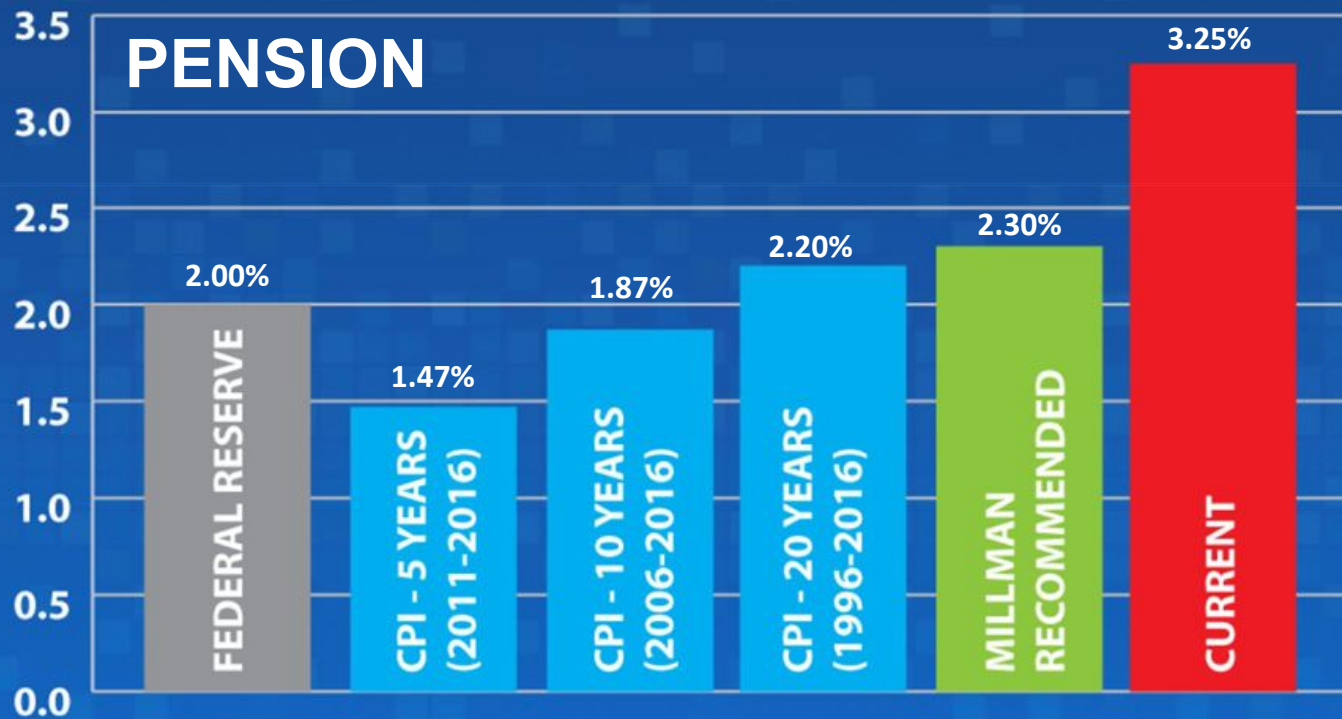
Board of Trustees Special Meeting

July 12, 2017



ECONOMIC ASSUMPTIONS

ESTIMATED INFLATION (CPI)

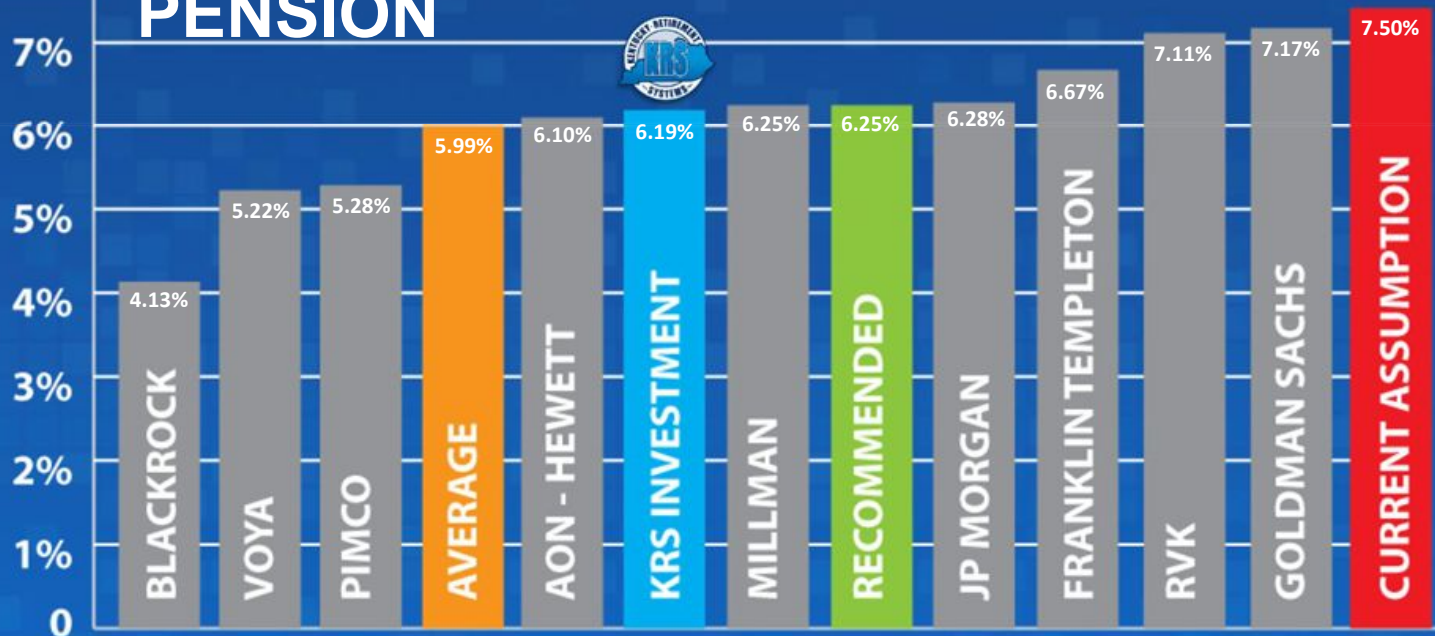




ECONOMIC ASSUMPTIONS

ESTIMATED INTEREST RATE

PENSION





ECONOMIC ASSUMPTIONS

ANNUAL MEMBER GROWTH RATE

FY 2006-2016



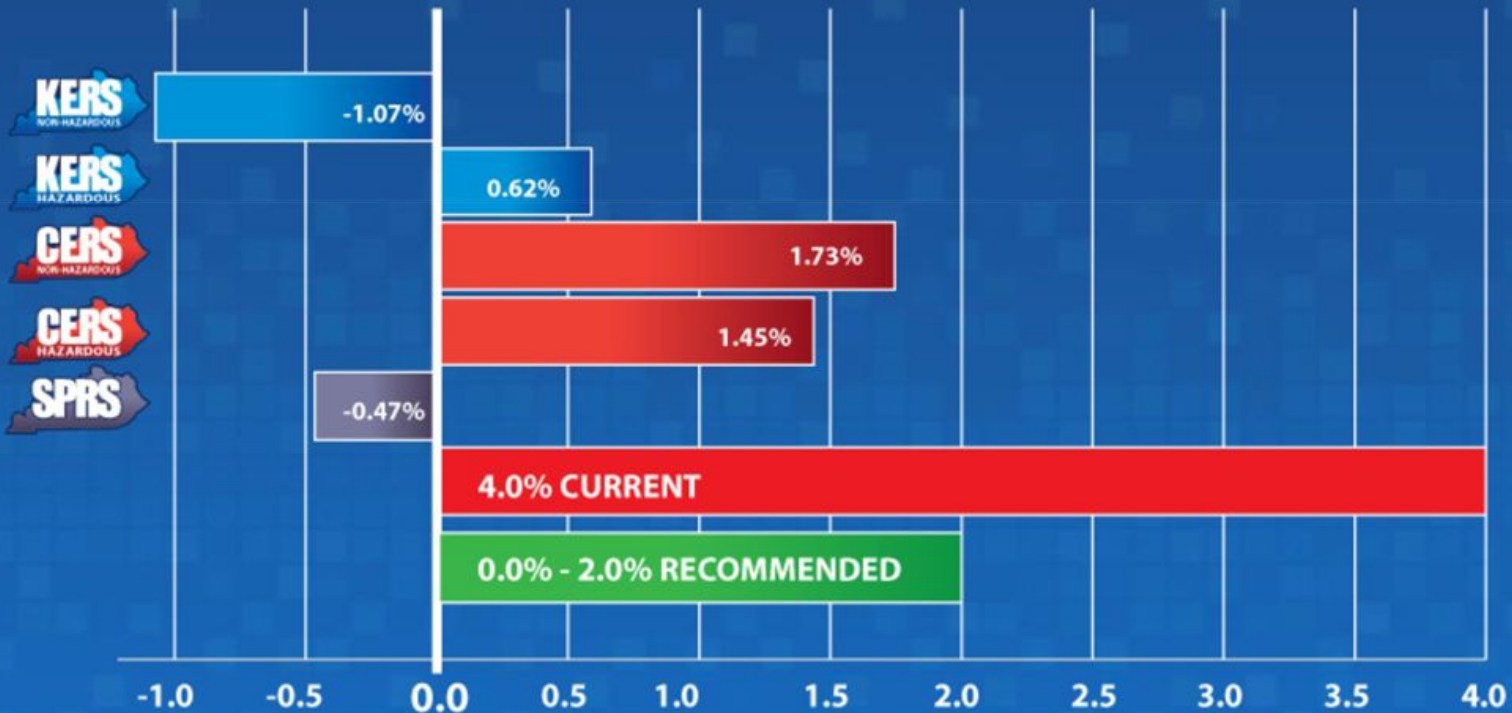
Member Growth below 4%
Payroll Growth Assumption



ECONOMIC ASSUMPTIONS

ANNUAL PAYROLL GROWTH RATE

FY 2006-2016





ECONOMIC ASSUMPTION RECOMMENDATIONS **GRS Retirement Consulting**

July 5, 2017 Letter

Review of Actions at May 18, 2017 Board Meeting

- 2.3% inflation assumption for 10 plans (pension and insurance): “is reasonable”
- 5.25% interest assumption for KERS Non-Hazardous and SPRS: “is reasonable”
- 0.0% payroll growth assumption for KERS Non-Hazardous and SPRS: “most appropriate”






ECONOMIC ASSUMPTION RECOMMENDATIONS **GRS Retirement Consulting**

July 5, 2017 Letter

Action Recommendations for July 12, 2017 Board Meeting



- Payroll growth assumption
 - “should not exceed 2.0% for CERS Non-Hazardous and CERS Hazardous “
 - “0.0% is a reasonable assumption for KERS Hazardous”
- 6.25% Interest rate assumption (driven by inflation change)
 - “initial motion May 18 for remaining plans is reasonable”
 - “rate would apply to KERS Hazardous, CERS Non-Hazardous and CERS Hazardous pension plans”
 - “rate applicable to all five insurance plans (KERS, CERS, SPRS)”

SENSITIVITY ANALYSIS

						
	FY2016	2017 NEW ASSUMPTIONS*	FY2016	2017 NEW ASSUMPTIONS*	FY2016	2017 NEW ASSUMPTIONS*
PENSION + INSURANCE						
INTEREST	7.50%	6.25%	7.50%	6.25%	7.50%	6.25%
PAYROLL GROWTH	4.00%	0.00%	4.00%	2.00%	4.00%	2.00%
INFLATION	3.25%	2.30%	3.25%	2.30%	3.25%	2.30%
Illustrative: Based on 2016 Valuations	SEE FOOTNOTE BELOW					
UNFUNDED LIABILITY \$	\$0.28 BILLION	\$0.42 BILLION	\$5.44 BILLION	\$7.01 BILLION	\$1.99 BILLION	\$2.57 BILLION
FUNDED RATIO %	78.6%	71.0%	61.3%	55.1%	62.2%	56.0%
CONTRIBUTION RATE	21.8%	36.1%	19.2%	26.4%	31.6%	44.2%

*Under the new assumption columns, Unfunded Liabilities, Funded Ratio %, and Contribution Rates are illustrative ONLY. The FY 2017 Valuations will provide new values based on actual FY 2017 data and adopted assumptions.

SENSITIVITY ANALYSIS

				
PENSION + INSURANCE	FY2016	2017 NEW ASSUMPTIONS*	FY2016	2017 NEW ASSUMPTIONS*
INTEREST	6.75%	5.25%	6.75%	5.25%
	7.50%	6.25%	7.50%	6.25%
PAYROLL GROWTH	4.00%	0.00%	4.00%	0.00%
INFLATION	3.25%	2.30%	3.25%	2.30%
Illustrative: Based on 2016 Valuations	SEE FOOTNOTE BELOW			
UNFUNDED LIABILITY \$	\$12.8 BILLION	\$15.0 BILLION	\$0.63 BILLION	\$0.76 BILLION
FUNDED RATIO %	18%	16%	39.5%	34.8%
CONTRIBUTION RATE	50.4%	77.9%	89.67%	140.9%

*Under the new assumption columns, Unfunded Liabilities, Funded Ratio %, and Contribution Rates are illustrative ONLY. The FY 2017 Valuations will provide new values based on actual FY 2017 data and adopted assumptions.



July 5, 2017

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, KY 40601

Re: Selection of Economic Assumptions for use in the July 1, 2017 Actuarial Valuation

Dear Members of the Board:

As the actuaries to the Kentucky Retirement Systems (KRS), we are providing this information for the purpose of offering the Board our professional opinion regarding a reasonable set of economic assumptions (i.e. price inflation, investment return assumption, and payroll growth rate) for use in performing the 2017 actuarial valuations for the retirement systems maintained by KRS.

Summary

Inflation Assumption: The same price inflation assumption must be used for each of the actuarial valuations of the retirement systems. We believe the 2.30% inflation assumption adopted for all KRS plans is reasonable and the 3.25% inflation used in the prior valuation is unreasonable and not inappropriate for use for the 2017 actuarial valuations for any of the retirement systems.

Investment Assumption: Based solely on the reduction in the inflation assumption, we believe that the investment return assumption used in the 2017 actuarial valuation of the KERS (non-hazardous) and SPRS should not exceed 5.80% and the assumption used in the actuarial valuation of CERS (non-hazardous and hazardous) and KERS (hazardous) should not exceed 6.55%. Further reductions in the investment return assumption should be considered in light of the new asset allocations which reflect a lower risk and return posture. The return assumptions used for the pension and health insurance plans should be the same; to the extent the these plans are similarly invested.

Payroll Growth Assumption: A 4.00% payroll growth assumption is an unreasonable assumption to use in the 2017 actuarial valuation for any of the retirement systems maintained by KRS. We believe a 0.00% payroll growth assumption is the most appropriate payroll growth assumption for use in the KERS (non-hazardous and hazardous) SPRS. A reasonable payroll

growth assumption should not exceed 2.00% for the actuarial valuations of CERS (non-hazardous and hazardous).

Discussion

Actuarial Standards of Practice (ASOP) No. 27, Selection of Economic Assumptions for Measuring Pension Obligations, provides guidance to actuaries giving advice on selecting economic assumptions for measuring obligations for defined benefit plans. There may be circumstances where it is reasonable to adopt slightly different economic assumptions for the different retirement systems maintained by KRS, but only as long as the expectation of different economic outcomes can be definitively supported. The following is an in depth discussion of each of the economic assumptions (i.e. price inflation, investment return assumption, and payroll growth) that the Board will need to adopt for the July 1, 2017 actuarial valuations.

GRS did not perform a separate or additional analysis of these assumptions, but relied on the analysis and information provided by Milliman's report, *Investment Return and Funding Methodology Review*, as well as additional analysis that was performed by KRS's investment committee, all of which were presented to the Board during the May 18, 2017 Board meeting. Had GRS performed an analysis, we would have used the same inputs, processes, and methods, thereby expecting similar outcomes as those already presented.

The following is a discussion of each of the economic assumptions that the Board discussed during the July 12, 2017 Board meeting.

Inflation Assumption

The inflation assumption is used to model the expected overall price changes over the whole of the economy and is measured by the annual increases in the Consumer Price Index (CPI). This inflation assumption underlies most of the other economic assumptions, including the investment return, salary increases, and payroll growth rate. This is a macroeconomic assumption; as such, there is no reason this assumption should vary among each of the Systems maintained by KRS. In other words, there is no basis or support to show that one or more of the retirement systems and members covered by these systems will experience different inflation.

The sources that were reviewed to develop an expectation of future changes in inflation included: (1) 20-year historical experience, (2) the Federal Reserve Target, (3) forward looking expectations developed by Milliman and several nationally recognized investment consulting firms, and (4) implied inflation priced in the market for US Treasury securities. Based on this information, we believe that a 3.25% inflation assumption is not appropriate for use in the 2017 actuarial valuations and the 2.30% inflation assumption that was adopted by the KRS Board in the May 18 meeting is reasonable.

Investment Assumption

The investment return assumption is used to discount future expected benefit payments to the valuation date in order to determine the liabilities of the plans. The method used by the KRS Investment Committee to analyze the expected future return for the Retirement Systems is the most appropriate and commonly used approach to identify a reasonable investment return assumption for use in the KRS actuarial valuations. Specifically, the Investment Committee mapped the Systems' target asset allocation to the forward-looking expected returns developed by ten (10) different investment management firms. GRS is a benefits consulting firm and does not provide investment consulting advice. As a result, we do not develop or maintain our own forecasts of capital market expectations and rely on the forward-looking expectations by many of the same investment management firms that were included in the Investment Committee's analysis.

The forward-looking expected returns for KERS (non-hazardous) and SPRS ranged from 3.7% to 6.6% with an average and median return that was approximately 5.5%. Similarly, the forward-looking expected returns for CERS (non-hazardous and hazardous) and KERS (hazardous) ranged from 4.1% to 7.2% with an average of 6.0% and a median of 6.25%. Note, these expected, forward-looking, returns vary for these Systems because of differences in investment policies. Also, the return assumptions used for the pension and health insurance plans should be the same; to the extent the plan assets for these plans are similarly invested. The initial motions that were presented to the Board was to decrease the interest rate assumption for KERS (non-hazardous) and SPRS to 5.25% and to decrease the interest rate assumption to 6.25% for CERS (non-hazardous and hazardous), and KERS (hazardous). **We believe the initial motions were reasonable and should be discussed in the July 12 Board meeting.**

Another method check to evaluate the reasonableness of the investment return assumption in relation to the other economic assumptions used in the valuation is to look at the components of the investment assumption: the return due to inflation and the real rate of return that is in excess of inflation and net of investment and administrative expenses. Given the inflation assumption is expected to decrease, we expect, at a minimum, the investment return assumption to decrease by the same amount as the change in the inflation assumption. Otherwise the real return component would create a riskier overall assumption set. The following page includes two tables that illustrate the expected change in the investment return assumption if the Board decreases the inflation assumption to 2.30%.

Table 1. Expected Change in Investment Return Assumption KERS (non-hazardous) and SPRS			
Component	2016 Assumption	2017 Assumption	Change
(1)	(2)	(3)	(4)
Inflation	3.25%	2.30% ¹	(0.95%)
<u>Net Real Return</u>	<u>3.50%</u>	<u>3.50%</u>	<u>0.00%</u>
Investment Return Assumption	6.75%	5.80%	(0.95%)

¹ Inflation assumption adopted by the Board on May 18, 2017.

Table 2. Expected Change in Investment Return Assumption CERS (non-hazardous and hazardous) and KERS (hazardous)			
Component	2016 Assumption	2017 Assumption	Change
(1)	(2)	(3)	(4)
Inflation	3.25%	2.30% ¹	(0.95%)
<u>Net Real Return</u>	<u>4.25%</u>	<u>4.25%</u>	<u>0.00%</u>
Investment Return Assumption	7.50%	6.55%	(0.95%)

¹ Inflation assumption adopted by the Board on May 18, 2017.

Table 2, above shows that keeping the same real return assumption after reflecting the proposed 2.30% inflation assumption suggests that the maximum nominal return assumption that does not increase the overall investment risk is approximately 6.50%.

Note this independent check of the components of the investment return assumption presumes the net real return component of the assumption remains applicable and does not reflect a change in the expected return due to changes in the asset allocation or any changes in forward-looking return expectations. We understand that since the May 12 meeting, the target asset allocations for all the systems have shifted to more conservative structures. The combination of lower inflation and new asset allocations further illustrate the need to lower the investment return assumptions.

Current actuarial standards of practice do permit the use of actuarial assumptions that include margins for possible adverse experience. Given the current financial conditions of the Retirement Systems, we would not object if the Board was to select an investment return assumption that was more conservative to be in a better position to react to possible adverse investment experience.

Payroll Growth Assumption

Participating employers of KRS make contributions to the system as a percentage of the covered payroll. Thus, the payments to amortize the unfunded liability are calculated to be a level percentage of payroll. Therefore, as payroll changes over time these amortization payments will also change. If actual covered payroll increases at a rate that is less than assumed, then the retirement systems receives less money than expected to finance the unfunded liability, which means the contribution rates in future years will be required to increase in order to finance the unfunded liability over the same time period.

The actual annual change in active membership for the ten-year period ending FY 2016 was negative for each System. The smallest annual change in headcount occurred in the KERS Hazardous System at -0.87% per year and the largest decrease occurring in the KERS non-hazardous system at -2.10% per year. The average annual decrease in active headcount over the same ten-year period for each of the CERS Systems was between -1.00% and 0.00%.

The actual historical change in payroll was also reviewed. For the ten-year period ending FY 2016, the annual change in total covered payroll ranged from -1.07% to 0.62% for the KERS (non-hazardous and hazardous) and SPRS Retirement Systems and was 1.73% and 1.45% for the CERS (non-hazardous and hazardous) Systems, respectively. Similarly, the actual inflation during this period, as measured by the change CPI, was approximately 1.8% per year. Given the financial condition of the KERS (non-hazardous and hazardous) and SPRS retirement systems and their actual historical payroll experience, we believe a 0.00% assumption is a reasonable assumption to use in the 2017 actuarial valuations for these systems.

Given the noticeably different experience in the payroll growth and financial condition of CERS (non-hazardous and hazardous), we believe it is reasonable if the Board adopts a different payroll growth assumption for these Systems. We suggest an appropriate starting point for selecting the payroll growth assumption for CERS (non-hazardous and hazardous) is aligned with the inflation assumption of 2.30%. However, the Board should also consider the effect that the increase in the contribution rates due to these new assumptions will encroach in the participating employers' operating budget which may currently be budgeted for workforce expansion. Stated slightly differently, actual payroll growth may be lower than historical levels and lower than many entities are currently budgeting. As a result, we do not recommend adopting a payroll growth assumption that exceeds 2.00% for CERS (non-hazardous and hazardous).

Closing Comments

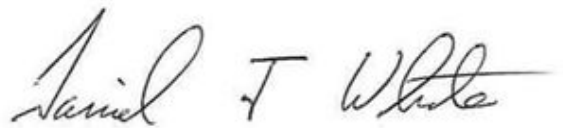
Using the set of economic assumptions that were initially motioned by Board in the May 18 Board meeting should present a more accurate portrayal of the Systems' financial condition and should reduce the magnitude of future experience gains and losses. Those assumptions would also comply with applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board.

Both Mr. White and Mr. Newton are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,



Joseph P. Newton, FSA, EA, MAAA
Pension Market Leader and Actuary



Daniel J. White, FSA, EA, MAAA
Senior Consultant and Actuary

KENTUCKY RETIREMENT SYSTEMS BOARD OF TRUSTEES

STATEMENT OF BYLAWS AND COMMITTEE ORGANIZATION

Section 1.1 General Administration.

This Statement of Bylaws and Committee Organization of the Board of Trustees is adopted pursuant to the authority of KRS 61.645. The law shall control if any inconsistency exists between the law and this Statement of Bylaws and Committee Organization of the Board of Trustees.

- a. **BOARD YEAR.** The Board Year shall be from April 1 of each calendar year through March 31 of the following year.
- b. **QUORUM; PARLIAMENTARY AUTHORITY.** As required by KRS 61.645(8)(c), a majority of the trustees on the ~~board~~Board or any ~~committee~~Committee shall constitute a quorum; ~~for transaction of business~~ and all actions taken by the ~~board~~Board or any ~~committee~~Committee, ~~except those actions described in paragraph 9 of this Statement of Bylaws,~~ shall be by affirmative vote of a majority ~~of the trustees~~of the trustees present and constituting a quorum. The most recent edition of Robert's Rules of Order shall be the parliamentary authority.
- c. **MEETINGS.** Meetings of the Board and Committees will be conducted consistent with the Open Meetings Act, KRS 61.805 to 61.850. The Open Meetings Act shall control if any inconsistency exists between the Open Meetings Act and these bylaws.
- d. **ANNUAL MEETING.** The annual meeting of the Board shall be held on the third Thursday of April each Board Year.
- e. **REGULAR QUARTERLY MEETINGS.** The regular quarterly meetings shall be held on the third Thursday of February and May, the second Thursday of September, and on the first Thursday of December.
- f. **SPECIAL MEETINGS.**
 - 1. Special meetings of the Board of Trustees shall be held upon the call of the Chair of the Board of Trustees or the Executive Director. Upon the request of a majority of the members of the Board, the Chair of the Board of Trustees or Executive Director may call a special meeting.
 - 2. Special meetings of a Standing or *Ad hoc* Committee of the Board of Trustees shall be held upon the call of the Committee Chair or the Executive Director. Upon the request of a majority of the members of the Standing or *Ad hoc*

Committee, the Committee Chair or Executive Director may call a special meeting.

3. Notice of a special meeting of the ~~board~~Board or a Standing or *Ad hoc* ~~committee~~Committee shall be posted as soon as practicable, but at least twenty-four hours (24) before the meeting is scheduled. The notice of a special meeting shall include the date, time, and location of the special meeting and the agenda for the special meeting.

g. NOTICE OF MEETINGS. Members of the Board and ~~committee~~Committees shall be given written and/or email notice of the time and place of each regular or special meeting and of the business to be considered at least ten (10) days prior to such meeting, except that when circumstances warrant a special meeting of the Board or a ~~committee~~Committee, such notice shall be given as soon as reasonably possible, but not less than twenty-four (24) hours prior to the special meeting.

h. RECORDS OF PROCEEDINGS. All official acts of the Board shall be recorded in the minutes. The Executive Director shall cause the minutes to be transcribed and presented for approval or amendment at the next regular meeting. The minutes or a copy certified by the Chair and Executive Director shall be on file in the retirement office and open to public inspection.

i. CHANGE IN MEETING DATES. Any regular or special meeting of the Board may be changed by following the procedure prescribed in these ~~Bylaws~~bylaws for calling special meetings.

i. j. CHAIR AND VICE CHAIR OF THE BOARD. The ~~B~~board shall elect a ~~e~~Chair and a ~~v~~Vice ~~e~~Chair at each annual meeting to hold office for the ensuing Board Year or until their successors are elected. The ~~e~~Chair shall not serve more than four (4) consecutive years as ~~e~~Chair or ~~v~~Vice-~~e~~Chair of the ~~b~~Board. The ~~v~~Vice-~~e~~Chair shall not serve more than four (4) consecutive years as ~~e~~Chair or ~~v~~Vice-~~e~~Chair of the ~~board~~Board. A trustee who has served four (4) consecutive years as ~~e~~Chair or ~~v~~Vice-~~e~~Chair of the ~~board~~Board may be elected ~~e~~Chair or ~~v~~Vice-~~e~~Chair of the ~~board~~Board after an absence of two (2) years from the positions.

k. COMMITTEES. The Board may create Committees with such powers and duties as the Board may determine.

The Chair of the Board of Trustees, unless otherwise determined by the Board, shall name the members of each Committee. Committee members shall serve concurrently with the appointing Chair.

l. CONFLICTS OF INTEREST. Board members shall file a financial disclosure statement with the Executive Branch Ethics Commission by April 15 of each calendar year, or within thirty (30) days following departure from office as a member of the Board, or as otherwise provided by law.

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m. TRAVEL POLICY GUIDELINES.

1. All travel for official business of Kentucky Retirement Systems must be done in accordance with the Kentucky Retirement Systems Travel Policy and Procedures adopted by the Board of Trustees.
2. No more than ~~six (6)~~ eight (8) Board members may be passengers on the same airline flight. A maximum of two (2) senior staff members may be passengers on the same flight.

n. ELECTION POLICY GUIDELINES. All elections for elected members of the Board of Trustees of Kentucky Retirement Systems must be conducted in accordance with the provisions of KRS 61.645 and the Kentucky Retirement Systems Board of Trustees Election Policy and Procedures adopted by the Board.

o. VIOLATIONS OF BY-LAWS OR BOARD POLICIES. If a complaint is made that a member of the Board violated these by-laws or any policy approved by the Board, the Board shall follow the procedure found in the Conflict of Interest and Confidentiality Policy in investigating the complaint.

Section 1.2 Board Responsibilities.

- a. The Board shall make bylaws not inconsistent with the law.
- b. The Board shall appoint an Executive Director and fix the Executive Director's salary.

~~The Board shall adopt a compensation and classification plan applicable to all KRS employees other than the Executive Director and the Chief Investment Officer. The Board shall authorize and instruct the Executive Director to cause the name, position and salary of each employee to be posted on the website of KRS and otherwise be subject to public review pursuant to Kentucky Revised Statutes 61.870 to 61.884. The Executive Director shall present a list of the salaries of the KRS executive staff, including: the Executive Director; Chief Officers; Deputy Chief Officers; Division Directors; Deputy Controller; Information Security Officer; General Counsel; and Assistant General Counsel to the Board at its regular quarterly meeting in September each year, unless the Board directs that the data be presented at a different time or more frequently.~~
- c. The Board shall authorize the Executive Director to appoint the employees deemed necessary to transact the business of the system.
- d. The Board shall act on contracts for rental of office space, and professional services including but not limited to the auditor, actuary, legal counsel, medical examiners, and hearing officers.

- e. The Board shall act on legislative and regulatory changes proposed by the staff of the retirement systems.
- f. The Board shall ratify the audited financial statements.
- g. The Board shall ratify the actions of its Committees.
- h. The Board shall act on the recommendations of the actuary and shall adopt actuarial assumptions and contribution rates.
- i. The Board shall adopt contribution rates toward medical insurance premiums.
- j. The Board shall provide oversight concerning programs and services for members, retirees, beneficiaries, and participating employers.
- k. The Board shall select candidates for each trustee ballot.
- l. The Board, or individual members of the Board, should ordinarily refer all news media inquiries to the Executive Director and/or the KRS Board Chair and should not speak on behalf of the Board or KRS with the news media. However, nothing in this subsection is intended to prevent individual ~~board~~Board members from speaking to the media concerning their actions and decisions as individual ~~board~~Board members.

Section 1.3 Executive Director Responsibilities.

- a. The Executive Director shall appoint ~~all staff to all positions in the retirement systems, and shall manage the staff to perform all administrative functions of Kentucky Retirement Systems~~the employees deemed necessary to transact the business of the system; provided, however, that all employees of the systems, except for the Executive Director, shall be subject to the state personnel system established pursuant to KRS 18A.005 to 18A.204 and shall have their salaries determined by the secretary of the Personnel Cabinet.
- b. The Executive Director shall develop a biennial budget and necessary budget amendments.
- c. The Executive Director shall be responsible for information and record management, and shall develop and maintain a disaster recovery plan.
- d. The Executive Director shall establish and implement policies in conformance with statutes, regulations and Board policies related to benefits administration.
- e. The Executive Director shall provide oversight of litigation and report significant developments to the Board.
- f. The Executive Director shall act as legislative liaison, and represent the Board at legislative hearings and other legislative meetings.

- g. The Executive Director shall oversee the administrative appeals and disability appeals hearing process.
- h. The Executive Director shall recommend legislative or regulatory changes and propose draft language.
- i. The Executive Director shall provide technical assistance to the members of General Assembly, Governor's office, state and local government officials, members, retirees, and beneficiaries of the retirement systems.
- j. The Executive Director shall communicate with the mass media and other agencies, entities or institutions, including responding to correspondence or inquiries addressed to the Board.
- k. The Executive Director shall implement any statutory or regulatory changes and take appropriate action to conform with federal law.
- l. The Executive Director shall coordinate reciprocal benefits with the other state administered retirement systems in Kentucky.
- ~~l.~~ ~~The Executive Director shall present a list of the salaries of the KRS executive staff, including: the Executive Director; Chief Officers; Deputy Chief Officers; Division Directors; Deputy Controller; Information Security Officer; General Counsel; and Assistant General Counsel to the Board at its regular quarterly meeting in September each year, unless the Board directs that the data be presented at a different time or more frequently.~~
- m. The Executive Director shall present a budget-to-actual expenditure analysis to the Board at each quarterly meeting of the Board.
- ~~m.n.~~ In the case of emergency conditions that threaten the functioning of Kentucky Retirement Systems, the preservation or protection of Kentucky Retirement Systems' property or assets, vital data, or the health or safety of any person, and where a quorum of the ~~board~~Board is unavailable, the Executive Director may take actions necessary to prevent or mitigate the threat, even if a vote of the Board of Trustees would otherwise be necessary to take such action. When a quorum of the Board of Trustees becomes available, any such actions taken by the Executive Director shall be reviewed and ratified as necessary.

Section 2.1 Standing Committees.

The Board shall have the Standing Committees specified in Section 2.2, each of them to have the duties and responsibilities as therein set forth, together with such other duties and responsibilities as the Board may by resolution determine. In each Board Year, the Chair, elected at the annual meeting, shall appoint Board members to Committees as specified in

Section 2.2, unless otherwise determined by the Board. Each ~~committee~~Committee shall have a Chair and the Board Chair shall appoint the Chair of each Committee, unless otherwise determined by the ~~board~~Board. A Committee may (but is not required to) elect a Vice Chair from among its members by a majority vote of its membership. A Vice Chair so elected shall preside at meetings of the Committee in the absence or inability to act of the Committee Chair. Any Board member may attend any meeting of any Committee of which he or she is not a member but shall not have a vote.

Section 2.2 Committee Duties and Responsibilities.

The Standing Committees of the Board are, and shall have respective duties and responsibilities, as follows:

- a. **Administrative Appeals Committees.** There shall be two (2) Administrative Appeals Committees, which may be combined with the Disability Appeals Committees. Consistent with the provisions of KRS Chapter 13B, the Committees shall meet in alternate months, as needed, to act in matters of administrative appeals. Each Committee shall consist of three (3) members; however, the members appointed to one ~~committee~~Committee may also serve from time to time on the other ~~committee~~Committee. The Committees shall ensure that the retirement laws are administered impartially and uniformly and that the actions of the retirement system resulting in the appeal were correct and fair under the applicable statutes and regulations.
 1. **Committee Responsibilities.** In matters of administrative appeals, the Committee members shall consider the administrative record including the recommended order and any exceptions filed and it may adopt the hearing officer's recommended order, or it may reject or modify, in whole or in part, the recommended order, or it may remand the matter, in whole or in part, to the hearing officer for further proceedings as appropriate, or it may act on ~~an~~ cases properly remanded by a court of competent jurisdiction. ~~appropriate.~~ The Committee may also recommend legislative changes to improve the administration of the benefits. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 2. **Chief Benefits Officer Responsibilities.** The Chief Benefits Officer or designated staff will coordinate meeting dates and determine which cases will be reviewed. Staff will compile the administrative records and distribute the files to the Committee members prior to each meeting. Staff may provide legal or technical advice to the Committee.
- b. **Audit Committee.** The Committee shall consist of a maximum of seven (7) members and will act on behalf of the Board in fulfilling its oversight responsibilities for the financial reporting process, the system of internal control, the internal and external audit processes, and the process for monitoring compliance with laws, regulations and the code of conduct.

1. **Committee Responsibilities.** The Committee will meet quarterly, with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the first Thursday ~~of~~ February and May, the third Thursday ~~in~~ of August, and the first Thursday of November. The ~~committee~~Committee shall have the authority to review reports by the Internal Auditor and to recommend appropriate policies and procedures. Additional responsibilities are enumerated in the Audit Committee Charter of the Board of Trustees.
 2. **Internal Auditor Responsibilities.** The Internal Auditor will be responsible for the planning, implementation and reporting of audits and the internal audit plan. The Internal Auditor will also be responsible for the functional control of audit activities in relation to the objectives of the Division of Internal Audit. Additional responsibilities are enumerated in the Division of Internal Audit Charter.
 3. **Audit Charters.** The Audit Committee Charter of the Board of Trustees and the Division of Internal Audit Charter are hereby incorporated by reference.
- c. **Disability Appeals Committees.** There shall be two (2) Disability Appeals Committees, which may be combined with the Administrative Appeals Committees. Consistent with the provisions of KRS Chapter 13B, the Committees shall meet in alternate months, as needed, to act in matters of disability appeals. Each Committee shall consist of three (3) members; however the members appointed to one ~~committee~~Committee may serve from time to time on the other ~~committee~~Committee. The Committees shall ensure that the disability retirement laws are administered impartially and uniformly and that all members who apply for disability retirement benefits, and who qualify under the applicable statutes, are approved for benefits.
1. **Committee Responsibilities.** In matters of disability appeals, the Committee members shall consider the administrative record including the recommended order and any exceptions filed and it may adopt the hearing officer's recommended order, or it may reject or modify, in whole or in part, the recommended order, or it may remand the matter, in whole or in part, to the hearing officer for further proceedings as ~~appropriate, or appropriate, or it may act on cases properly remanded by a court of competent jurisdiction.~~ The Committee may also recommend legislative changes to improve the administration of the benefits. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 2. **Chief Benefits Officer Responsibilities.** The Chief Benefits Officer or designated staff will coordinate meeting dates and determine which cases will be reviewed. Staff will compile the administrative records and distribute the files to the Committee members prior to each meeting. Staff may provide legal or technical advice to the Committee.

- d. **Investment Committee.** The Committee shall consist of ~~a maximum of five~~ nine (9) members and will act on behalf of the Board on investment related matters to assure the prudent investment of the retirement systems' assets to achieve the long-term funding goals established in the Board's Statement of Investment Policy.
1. **Committee Responsibilities.** The Committee will meet quarterly or more frequently to review reports from investment staff, investment consultants and investment managers with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the first Tuesday of February and May, the third Tuesday of August, and the first Wednesday of November. The Committee will monitor investment performance and management practices and make reports and recommendations to the Board. The Committee will approve the selection and termination of service providers. The Committee will evaluate whether the policy, the investment activities, and management controls and processes continue to be consistent with meeting the retirement systems' goals and perform other duties specified in the Statement of Investment Policy. The Committee may also recommend legislative changes to improve the administration of investment related matters. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
2. **Chief Investment Officer Responsibilities.** The Chief Investment Officer ("CIO") will administer the assets of the retirement systems consistent with the policies, guidelines and limits established by the law, and the Statement of Investment Policy and the Investment Committee. The CIO will provide members of the Committee with assessments of service providers and performance reports. The CIO will identify issues for consideration by the Investment Committee and prepare recommendations regarding those issues. The CIO will recommend changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals. The CIO will communicate with the mass media and other agencies, entities or institutions regarding investment related issues.
3. **Investment Policy.** The Statement of Investment Policy: Insurance Fund ~~and The~~ the Statement of Investment Policy: Pension Funds ~~and the Investment~~ Procurement Policy are hereby incorporated by reference.
- e. **Legislative and Budget Committee.** The Legislative and Budget Committee shall consist of a maximum of seven (7) members and ~~shall~~ may review the retirement systems administrative budget and recommend additions or reductions in specific program areas or budgetary items. The Committee reviews and recommends statutory changes to the Board related to the administration of benefits and compliance with federal law and determines which changes are in the best interests of the retirement systems.

1. **Committee Responsibilities.** The Committee will meet only as necessary. Meetings may be called as set forth in Section 1.1(f) of these bylaws. The Committee shall have the authority to review budget recommendations and legislative recommendations of members of the Board, staff or others. The Committee may approve, reject and modify changes, as well as provide policy guidance for staff in drafting changes. The Committee will present the final recommendations to the Board.
 2. **Executive Director Responsibilities.** The Executive Director will schedule meetings, prepare the budget document and supporting schedules, prepare draft changes to Kentucky Revised Statutes and present them to Committee members prior to the date of a meeting. Staff will research the impact of proposed changes and report the results to the Committee. Staff will also make preliminary contacts with legislators, employers and interest groups to assist in formulating legislation to accommodate all interested parties. Staff will work with the General Assembly, Legislative Research Commission, the Governor's Office and interest groups to obtain passage of the Board's legislative proposals, or advocate other interests supported by the Board.
- f. **Human Resources Committee.** The Committee shall consist of a maximum of five (5) members and shall assist the Executive Director and the Board of Trustees in attracting and retaining a competent, creative and motivated workforce.
1. **Committee Responsibilities.** The Committee shall meet on the third Thursday of February and May, the second Thursday of September, and the first Thursday of December, with authority to convene additional meetings, as circumstances require. The Committee recommends personnel policies to the Board. ~~However, provided, however, that, any adopted policy must conform with and cannot contradict those codified by law in KRS Chapter 18A. The Committee reviews and recommends salaries for executive staff based on comparable salaries and job performance. The Committee shall ensure the provisions enumerated in KRS 61.645 (9) are administered in a fair and equitable manner. The provisions of KRS 61.645(9) are herein incorporated by reference.~~ The Committee may also recommend legislative changes to improve the administration of the personnel system. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 2. **Executive Director Responsibilities.** The Executive Director and his staff will maintain and provide the Committee with data on salaries of comparable positions in comparable businesses or similarly structured retirement systems. Staff will identify issues for consideration by the Committee and prepare recommendations regarding those issues.
- g. **Retiree Health Plan Committee.** The Committee shall consist of a maximum of seven (7) members and shall assist the Board in providing a group hospital and medical

insurance plan for present and future recipients of a retirement allowance from KERS, CERS, and SPRS as required by KRS 61.702.

- 1. Committee Responsibilities.** The Committee will meet quarterly to review reports from retirement staff and retiree health insurance consultants with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the second Tuesday of February and May, the first Thursday of September, and the second Tuesday of November. The Committee will monitor retiree health insurance matters and make reports and recommendations to the Board. The Committee will evaluate retiree health insurance issues and obligations set forth in state and federal law. The Committee may, as deemed necessary, evaluate health insurance companies, health maintenance organizations, self-insurance proposals, and other ways of providing a group hospital and medical insurance plan for retirees as provided in KRS 61.702. The Committee may negotiate and recommend appropriate contracts for execution by the Board. The Committee may solicit reports and actuarial analyses in order to analyze issues regarding retiree health insurance. The Committee may also recommend legislative changes to improve the administration of retiree health insurance related matters. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
- 2. Executive Director Responsibilities.** The Executive Director and his staff will maintain and provide the Committee with necessary information to execute its responsibilities. The Executive Director and his staff will provide advice regarding state and federal laws and regulations. Staff will identify issues for consideration by the Committee and prepare recommendations regarding those issues.

- h.** In addition to the duties and responsibilities described in Section 2.2, each Standing Committee may develop appropriate policies and proposals to be ratified by the Board.

Section 2.3 Delegations of Authority by the Board.

- a.** Except as may be prohibited by or inconsistent with law, the Board may delegate to any Standing Committee of the Board any power, authority, duty or responsibility conferred on the Board by law. In the case of any such delegation, the decision or action of the Committee within the scope of its delegated authority shall constitute the decision or action of the Board. The Board may at any time rescind the delegated authority as a whole or in part, except that a rescission of authority with respect to quasi-judicial matters delegated to a Committee shall not operate to affect the proceedings or the final action of any such matter pending before the Committee when the Board acts to rescind. This exception is designed to preclude the Board from using its authority to rescind a delegation to interfere with the process or outcome of a quasi-judicial proceeding then in progress before a Committee which had properly commenced the proceeding within the scope of its authority.
- b. Request for Proposal (RFP) Process.**

1. The Standing Committee charged with oversight of the area germane to the RFP shall ensure that the most appropriate vendors are chosen to provide services to the retirement systems consistent with the provisions of KRS Chapter 45A. The Standing Committee will review and make recommendations for appropriate vendors during its regularly scheduled meeting or at a special meeting if necessary.
2. The Chair shall appoint a RFP Committee as needed to review and make recommendations regarding RFPs that are not within an area germane to a Standing Committee. The RFP Committee will not have regular meetings, but will meet as a Special Meeting at the call of the Executive Director or the Chair.
3. **Staff Responsibilities.** Staff will solicit and screen responses for eligibility and completeness. Staff will conduct any preliminary due diligence necessary to assist in the screening of responses and the selection of the finalists presented for consideration by the Committee.

Section 2.4 *Ad hoc* Committees.

In addition to the Standing Committees specified in Section 2.2, the Chair or the Board may at any time establish an *ad hoc* Committee of the Board and fix its duties and responsibilities for any purpose which in the judgment of the Chair or the Board is better served by a temporary rather than Standing Committee. Each such Committee shall consist of such number of members as the Chair shall determine, and the Chair shall also then appoint the chair and designate the other members of the Committee unless otherwise determined by the Board.

Section 2.5 Limitations on Authority.

No Committee shall have any power or authority, nor shall the Board delegate to it power or authority, as to any of the following:

- a. The amendment or repeal of any Board resolution.
- b. Action on other matters committed by Board resolution or by Kentucky law (including the common law of trusts respecting the delegation or the non-delegation of fiduciary responsibilities) to the Board under terms or provisions that make such action non-delegable.

Section 2.6 Amendment of ~~Bylaws~~ Bylaws.

These ~~bylaws~~ bylaws may be amended at any regular meeting of the KRS Board of Trustees by a vote of a majority of the entire membership of the Board.

Section 3.0 Certification of Statement of ~~Bylaws~~Bylaws and Committee Organization.

We, the Chair of the Board of Trustees and the Executive Director of the Kentucky Retirement Systems, do certify that this Statement of ~~Bylaws~~Bylaws and Committee Organization was approved and made effective by the Board ~~on~~ this ____ day of ~~May~~_____, 2017.

John R. Farris, Chair

Date

Interim Executive Director

Date

KENTUCKY RETIREMENT SYSTEMS BOARD OF TRUSTEES

STATEMENT OF BYLAWS AND COMMITTEE ORGANIZATION

Section 1.1 General Administration.

This Statement of Bylaws and Committee Organization of the Board of Trustees is adopted pursuant to the authority of KRS 61.645. The law shall control if any inconsistency exists between the law and this Statement of Bylaws and Committee Organization of the Board of Trustees.

- a. **BOARD YEAR.** The Board Year shall be from April 1 of each calendar year through March 31 of the following year.
- b. **QUORUM; PARLIAMENTARY AUTHORITY.** As required by KRS 61.645(8)(c), a majority of the trustees on the Board or any Committee shall constitute a quorum and all actions taken by the Board or any Committee shall be by affirmative vote of a majority of the trustees present and constituting a quorum. The most recent edition of Robert's Rules of Order shall be the parliamentary authority.
- c. **MEETINGS.** Meetings of the Board and Committees will be conducted consistent with the Open Meetings Act, KRS 61.805 to 61.850. The Open Meetings Act shall control if any inconsistency exists between the Open Meetings Act and these bylaws.
- d. **ANNUAL MEETING.** The annual meeting of the Board shall be held on the third Thursday of April each Board Year.
- e. **REGULAR QUARTERLY MEETINGS.** The regular quarterly meetings shall be held on the third Thursday of February and May, the second Thursday of September, and on the first Thursday of December.
- f. **SPECIAL MEETINGS.**
 - 1. Special meetings of the Board of Trustees shall be held upon the call of the Chair of the Board of Trustees or the Executive Director. Upon the request of a majority of the members of the Board, the Chair of the Board of Trustees or Executive Director may call a special meeting.
 - 2. Special meetings of a Standing or *Ad hoc* Committee of the Board of Trustees shall be held upon the call of the Committee Chair or the Executive Director. Upon the request of a majority of the members of the Standing or *Ad hoc* Committee, the Committee Chair or Executive Director may call a special meeting.

3. Notice of a special meeting of the Board or a Standing or *Ad hoc* Committee shall be posted as soon as practicable, but at least twenty-four hours (24) before the meeting is scheduled. The notice of a special meeting shall include the date, time, and location of the special meeting and the agenda for the special meeting.
- g. NOTICE OF MEETINGS.** Members of the Board and Committees shall be given written and/or email notice of the time and place of each regular or special meeting and of the business to be considered at least ten (10) days prior to such meeting, except that when circumstances warrant a special meeting of the Board or a Committee, such notice shall be given as soon as reasonably possible, but not less than twenty-four (24) hours prior to the special meeting.
- h. RECORDS OF PROCEEDINGS.** All official acts of the Board shall be recorded in the minutes. The Executive Director shall cause the minutes to be transcribed and presented for approval or amendment at the next regular meeting. The minutes or a copy certified by the Chair and Executive Director shall be on file in the retirement office and open to public inspection.
- i. CHANGE IN MEETING DATES.** Any regular or special meeting of the Board may be changed by following the procedure prescribed in these bylaws for calling special meetings.
- j. CHAIR AND VICE CHAIR OF THE BOARD.** The Board shall elect a Chair and a Vice Chair at each annual meeting to hold office for the ensuing Board Year or until their successors are elected. The Chair shall not serve more than four (4) consecutive years as Chair or Vice Chair of the Board. The Vice Chair shall not serve more than four (4) consecutive years as Chair or Vice Chair of the Board. A trustee who has served four (4) consecutive years as Chair or Vice Chair of the Board may be elected Chair or Vice Chair of the Board after an absence of two (2) years from the positions.
- k. COMMITTEES.** The Board may create Committees with such powers and duties as the Board may determine.

The Chair of the Board of Trustees, unless otherwise determined by the Board, shall name the members of each Committee. Committee members shall serve concurrently with the appointing Chair.

- l. CONFLICTS OF INTEREST.** Board members shall file a financial disclosure statement with the Executive Branch Ethics Commission by April 15 of each calendar year, or within thirty (30) days following departure from office as a member of the Board, or as otherwise provided by law.

m. TRAVEL POLICY GUIDELINES.

1. All travel for official business of Kentucky Retirement Systems must be done in accordance with the Kentucky Retirement Systems Travel Policy and Procedures adopted by the Board of Trustees.
2. No more than eight (8) Board members may be passengers on the same airline flight. A maximum of two (2) senior staff members may be passengers on the same flight.

n. ELECTION POLICY GUIDELINES. All elections for elected members of the Board of Trustees of Kentucky Retirement Systems must be conducted in accordance with the provisions of KRS 61.645 and the Kentucky Retirement Systems Board of Trustees Election Policy and Procedures adopted by the Board.

o. VIOLATIONS OF BYLAWS OR BOARD POLICIES. If a complaint is made that a member of the Board violated these bylaws or any policy approved by the Board, the Board shall follow the procedure found in the Conflict of Interest and Confidentiality Policy in investigating the complaint.

Section 1.2 Board Responsibilities.

- a. The Board shall make bylaws not inconsistent with the law.
- b. The Board shall appoint an Executive Director and fix the Executive Director's salary.
- c. The Board shall authorize the Executive Director to appoint the employees deemed necessary to transact the business of the system.
- d. The Board shall act on contracts for rental of office space, and professional services including but not limited to the auditor, actuary, legal counsel, medical examiners, and hearing officers.
- e. The Board shall act on legislative and regulatory changes proposed by the staff of the retirement systems.
- f. The Board shall ratify the audited financial statements.
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- j. The Board shall provide oversight concerning programs and services for members, retirees, beneficiaries, and participating employers.
- k. The Board shall select candidates for each trustee ballot.
- l. The Board, or individual members of the Board, should ordinarily refer all news media inquiries to the Executive Director and/or the KRS Board Chair and should not speak on behalf of the Board or KRS with the news media. However, nothing in this subsection is intended to prevent individual Board members from speaking to the media concerning their actions and decisions as individual Board members.

Section 1.3 Executive Director Responsibilities.

- a. The Executive Director shall appoint the employees deemed necessary to transact the business of the system; provided, however, that all employees of the systems, except for the Executive Director, shall be subject to the state personnel system established pursuant to KRS 18A.005 to 18A.204 and shall have their salaries determined by the secretary of the Personnel Cabinet.
- b. The Executive Director shall develop a biennial budget and necessary budget amendments.
- c. The Executive Director shall be responsible for information and record management, and shall develop and maintain a disaster recovery plan.
- d. The Executive Director shall establish and implement policies in conformance with statutes, regulations and Board policies related to benefits administration.
- e. The Executive Director shall provide oversight of litigation and report significant developments to the Board.
- f. The Executive Director shall act as legislative liaison, and represent the Board at legislative hearings and other legislative meetings.
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- j. The Executive Director shall communicate with the mass media and other agencies, entities or institutions, including responding to correspondence or inquiries addressed to the Board.
- k. The Executive Director shall implement any statutory or regulatory changes and take appropriate action to conform with federal law.
- l. The Executive Director shall coordinate reciprocal benefits with the other state administered retirement systems in Kentucky.
- m. The Executive Director shall present a budget-to-actual expenditure analysis to the Board at each quarterly meeting of the Board.
- n. In the case of emergency conditions that threaten the functioning of Kentucky Retirement Systems, the preservation or protection of Kentucky Retirement Systems' property or assets, vital data, or the health or safety of any person, and where a quorum of the Board is unavailable, the Executive Director may take actions necessary to prevent or mitigate the threat, even if a vote of the Board of Trustees would otherwise be necessary to take such action. When a quorum of the Board of Trustees becomes available, any such actions taken by the Executive Director shall be reviewed and ratified as necessary.

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The Board shall have the Standing Committees specified in Section 2.2, each of them to have the duties and responsibilities as therein set forth, together with such other duties and responsibilities as the Board may by resolution determine. In each Board Year, the Chair, elected at the annual meeting, shall appoint Board members to Committees as specified in Section 2.2, unless otherwise determined by the Board. Each Committee shall have a Chair and the Board Chair shall appoint the Chair of each Committee, unless otherwise determined by the Board. A Committee may (but is not required to) elect a Vice Chair from among its members by a majority vote of its membership. A Vice Chair so elected shall preside at meetings of the Committee in the absence or inability to act of the Committee Chair. Any Board member may attend any meeting of any Committee of which he or she is not a member but shall not have a vote.

Section 2.2 Committee Duties and Responsibilities.

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Committee may also serve from time to time on the other Committee. The Committees shall ensure that the retirement laws are administered impartially and uniformly and that the actions of the retirement system resulting in the appeal were correct and fair under the applicable statutes and regulations.

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 - 2. Chief Benefits Officer Responsibilities.** The Chief Benefits Officer or designated staff will coordinate meeting dates and determine which cases will be reviewed. Staff will compile the administrative records and distribute the files to the Committee members prior to each meeting. Staff may provide legal or technical advice to the Committee.
- b. Audit Committee.** The Committee shall consist of a maximum of seven (7) members and will act on behalf of the Board in fulfilling its oversight responsibilities for the financial reporting process, the system of internal control, the internal and external audit processes, and the process for monitoring compliance with laws, regulations and the code of conduct.
- 1. Committee Responsibilities.** The Committee will meet quarterly, with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the first Thursday of February and May, the third Thursday of August, and the first Thursday of November. The Committee shall have the authority to review reports by the Internal Auditor and to recommend appropriate policies and procedures. Additional responsibilities are enumerated in the Audit Committee Charter of the Board of Trustees.
 - 2. Internal Auditor Responsibilities.** The Internal Auditor will be responsible for the planning, implementation and reporting of audits and the internal audit plan. The Internal Auditor will also be responsible for the functional control of audit activities in relation to the objectives of the Division of Internal Audit. Additional responsibilities are enumerated in the Division of Internal Audit Charter.
 - 3. Audit Charters.** The Audit Committee Charter of the Board of Trustees and the Division of Internal Audit Charter are hereby incorporated by reference.
- c. Disability Appeals Committees.** There shall be two (2) Disability Appeals Committees, which may be combined with the Administrative Appeals Committees.

Consistent with the provisions of KRS Chapter 13B, the Committees shall meet in alternate months, as needed, to act in matters of disability appeals. Each Committee shall consist of three (3) members; however the members appointed to one Committee may serve from time to time on the other Committee. The Committees shall ensure that the disability retirement laws are administered impartially and uniformly and that all members who apply for disability retirement benefits, and who qualify under the applicable statutes, are approved for benefits.

- 1. Committee Responsibilities.** In matters of disability appeals, the Committee members shall consider the administrative record including the recommended order and any exceptions filed and it may adopt the hearing officer's recommended order, or it may reject or modify, in whole or in part, the recommended order, or it may remand the matter, in whole or in part, to the hearing officer for further proceedings as appropriate, or it may act on cases properly remanded by a court of competent jurisdiction. The Committee may also recommend legislative changes to improve the administration of the benefits. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 - 2. Chief Benefits Officer Responsibilities.** The Chief Benefits Officer or designated staff will coordinate meeting dates and determine which cases will be reviewed. Staff will compile the administrative records and distribute the files to the Committee members prior to each meeting. Staff may provide legal or technical advice to the Committee.
- d. Investment Committee.** The Committee shall consist of nine (9) members and will act on behalf of the Board on investment related matters to assure the prudent investment of the retirement systems' assets to achieve the long-term funding goals established in the Board's Statement of Investment Policy.
- 1. Committee Responsibilities.** The Committee will meet quarterly or more frequently to review reports from investment staff, investment consultants and investment managers with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the first Tuesday of February and May, the third Tuesday of August, and the first Wednesday of November. The Committee will monitor investment performance and management practices and make reports and recommendations to the Board. The Committee will approve the selection and termination of service providers. The Committee will evaluate whether the policy, the investment activities, and management controls and processes continue to be consistent with meeting the retirement systems' goals and perform other duties specified in the Statement of Investment Policy. The Committee may also recommend legislative changes to improve the administration of investment related matters. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.

- 2. Chief Investment Officer Responsibilities.** The Chief Investment Officer (“CIO”) will administer the assets of the retirement systems consistent with the policies, guidelines and limits established by the law, and the Statement of Investment Policy and the Investment Committee. The CIO will provide members of the Committee with assessments of service providers and performance reports. The CIO will identify issues for consideration by the Investment Committee and prepare recommendations regarding those issues. The CIO will recommend changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals. The CIO will communicate with the mass media and other agencies, entities or institutions regarding investment related issues.
- 3. Investment Policy.** The Statement of Investment Policy: Insurance Fund, the Statement of Investment Policy: Pension Funds and the Investment Procurement Policy are hereby incorporated by reference.
- e. Legislative and Budget Committee.** The Legislative and Budget Committee shall consist of a maximum of seven (7) members and may review the retirement systems administrative budget and recommend additions or reductions in specific program areas or budgetary items. The Committee reviews and recommends statutory changes to the Board related to the administration of benefits and compliance with federal law and determines which changes are in the best interests of the retirement systems.
- 1. Committee Responsibilities.** The Committee will meet only as necessary. Meetings may be called as set forth in Section 1.1(f) of these bylaws. The Committee shall have the authority to review budget recommendations and legislative recommendations of members of the Board, staff or others. The Committee may approve, reject and modify changes, as well as provide policy guidance for staff in drafting changes. The Committee will present the final recommendations to the Board.
- 2. Executive Director Responsibilities.** The Executive Director will schedule meetings, prepare the budget document and supporting schedules, prepare draft changes to Kentucky Revised Statutes and present them to Committee members prior to the date of a meeting. Staff will research the impact of proposed changes and report the results to the Committee. Staff will also make preliminary contacts with legislators, employers and interest groups to assist in formulating legislation to accommodate all interested parties. Staff will work with the General Assembly, Legislative Research Commission, the Governor’s Office and interest groups to obtain passage of the Board’s legislative proposals, or advocate other interests supported by the Board.
- f. Human Resources Committee.** The Committee shall consist of a maximum of five (5) members and shall assist the Executive Director and the Board of Trustees in attracting and retaining a competent, creative and motivated workforce.

- 1. Committee Responsibilities.** The Committee shall meet on the third Thursday of February and May, the second Thursday of September, and the first Thursday of December, with authority to convene additional meetings as circumstances require. The Committee recommends personnel policies to the Board; provided, however, that any adopted policy must conform with and cannot contradict those codified by law in KRS Chapter 18A. The Committee may also recommend legislative changes to improve the administration of the personnel system. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 - 2. Executive Director Responsibilities.** The Executive Director and his staff will maintain and provide the Committee with data on salaries of comparable positions in comparable businesses or similarly structured retirement systems. Staff will identify issues for consideration by the Committee and prepare recommendations regarding those issues.
- g. Retiree Health Plan Committee.** The Committee shall consist of a maximum of seven (7) members and shall assist the Board in providing a group hospital and medical insurance plan for present and future recipients of a retirement allowance from KERS, CERS, and SPRS as required by KRS 61.702.
- 1. Committee Responsibilities.** The Committee will meet quarterly to review reports from retirement staff and retiree health insurance consultants with authority to convene additional meetings, as circumstances require. The regular quarterly meetings shall be held on the second Tuesday of February and May, the first Thursday of September, and the second Tuesday of November. The Committee will monitor retiree health insurance matters and make reports and recommendations to the Board. The Committee will evaluate retiree health insurance issues and obligations set forth in state and federal law. The Committee may, as deemed necessary, evaluate health insurance companies, health maintenance organizations, self-insurance proposals, and other ways of providing a group hospital and medical insurance plan for retirees as provided in KRS 61.702. The Committee may negotiate and recommend appropriate contracts for execution by the Board. The Committee may solicit reports and actuarial analyses in order to analyze issues regarding retiree health insurance. The Committee may also recommend legislative changes to improve the administration of retiree health insurance related matters. Any recommended legislative changes shall be referred to the Legislative and Budget Committee for study.
 - 2. Executive Director Responsibilities.** The Executive Director and his staff will maintain and provide the Committee with necessary information to execute its responsibilities. The Executive Director and his staff will provide advice regarding state and federal laws and regulations. Staff will identify issues for consideration by the Committee and prepare recommendations regarding those issues.

- h.** In addition to the duties and responsibilities described in Section 2.2, each Standing Committee may develop appropriate policies and proposals to be ratified by the Board.

Section 2.3 Delegations of Authority by the Board.

- a.** Except as may be prohibited by or inconsistent with law, the Board may delegate to any Standing Committee of the Board any power, authority, duty or responsibility conferred on the Board by law. In the case of any such delegation, the decision or action of the Committee within the scope of its delegated authority shall constitute the decision or action of the Board. The Board may at any time rescind the delegated authority as a whole or in part, except that a rescission of authority with respect to quasi-judicial matters delegated to a Committee shall not operate to affect the proceedings or the final action of any such matter pending before the Committee when the Board acts to rescind. This exception is designed to preclude the Board from using its authority to rescind a delegation to interfere with the process or outcome of a quasi-judicial proceeding then in progress before a Committee which had properly commenced the proceeding within the scope of its authority.

- b. Request for Proposal (RFP) Process.**

1. The Standing Committee charged with oversight of the area germane to the RFP shall ensure that the most appropriate vendors are chosen to provide services to the retirement systems consistent with the provisions of KRS Chapter 45A. The Standing Committee will review and make recommendations for appropriate vendors during its regularly scheduled meeting or at a special meeting if necessary.
2. The Chair shall appoint a RFP Committee as needed to review and make recommendations regarding RFPs that are not within an area germane to a Standing Committee. The RFP Committee will not have regular meetings, but will meet as a Special Meeting at the call of the Executive Director or the Chair.
3. **Staff Responsibilities.** Staff will solicit and screen responses for eligibility and completeness. Staff will conduct any preliminary due diligence necessary to assist in the screening of responses and the selection of the finalists presented for consideration by the Committee.

Section 2.4 *Ad hoc* Committees.

In addition to the Standing Committees specified in Section 2.2, the Chair or the Board may at any time establish an *ad hoc* Committee of the Board and fix its duties and responsibilities for any purpose which in the judgment of the Chair or the Board is better served by a temporary rather than Standing Committee. Each such Committee shall consist of such number of members as the Chair shall determine, and the Chair shall also then appoint the chair and designate the other members of the Committee unless otherwise determined by the Board.

Section 2.5 Limitations on Authority.

No Committee shall have any power or authority, nor shall the Board delegate to it power or authority, as to any of the following:

- a. The amendment or repeal of any Board resolution.
- b. Action on other matters committed by Board resolution or by Kentucky law (including the common law of trusts respecting the delegation or the non-delegation of fiduciary responsibilities) to the Board under terms or provisions that make such action non-delegable.

Section 2.6 Amendment of Bylaws.

These bylaws may be amended at any regular meeting of the KRS Board of Trustees by a vote of a majority of the entire membership of the Board.

Section 3.0 Certification of Statement of Bylaws and Committee Organization.

We, the Chair of the Board of Trustees and the Executive Director of the Kentucky Retirement Systems, do certify that this Statement of Bylaws and Committee Organization was approved and made effective by the Board this _____ day of _____, 2017.

John R. Farris, Chair

Date

Interim Executive Director

Date



Kentucky Retirement Systems

Appendix A: Addendum to the Statement of Investment Policy

Pension Fund – Asset Allocation / Benchmark Composite

Effective July 1st, 2017

This addendum to the investment policy is issued by the Board of Trustees of Kentucky Retirement Systems (Systems) in connection with investing the pension funds of the Kentucky Employees Retirement System, the County Employees Retirement System and the State Police Retirement System. This document supersedes all prior documents entitled Addendum to the Statement of Investment Policy.

I. Asset Allocation with Benchmarks

KRS Pension Fund - Asset Allocation							
Asset Class	Benchmark	Target					Allowable Range (+/- Target)
		KERS	KERS Hazardous	CERS	CERS Hazardous	SPRS	
Assumed Rate of Return		5.25%	6.25%	6.25%	6.25%	5.25%	
US Equity	Russell 3000	17.5%	17.5%	17.5%	17.5%	17.5%	2.5%
Non US Equity	MSCI ACWI Ex-US IMI	17.5%	17.5%	17.5%	17.5%	17.5%	2.5%
Global Fixed Income	Barclays Universal Index	10.0%	4.0%	4.0%	4.0%	10.0%	1.5%/1%
Credit Fixed Income	Barclays US High Yield	17.0%	24.0%	24.0%	24.0%	17.0%	3.5%/2.5%
Real Estate	NCREIF ODCE	5.0%	5.0%	5.0%	5.0%	5.0%	1.0%
Absolute Return	HFRI Diversified FOF	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Real Return	Custom - Allocation Specific	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Private Equity ST <5 Yrs	Actual Performance	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Private Equity LT 5+ Yrs	Russell 3000 + 300 bps (lagged)						
Cash	Citi Grp 3-mos Treasury Bill	3.0%	2.0%	2.0%	2.0%	3.0%	1.0%

II. Total Fund Blended Benchmark Composite

Pension Fund Composite		
US Equity	Russell 3000	17.5%
Non US Equity	MSCI ACWI Ex-US IMI	17.5%
Global Fixed Income	Barclays Universal Index	5.1%
Credit Fixed Income	Barclays U.S. High Yield	22.7%
Real Estate	NCREIF ODCE	5%
Absolute Return	HFRI Diversified FOF	10.0%
Real Return	Custom - Allocation Specific	10.0%
Private Equity <Short Term <5 Yrs>	Actual Performance	10.0%
Private Equity <Long Term 5 Yrs+>	Russell 3000 (lagged 1 qtr) + 300 bps	
Cash	Citi Grp 3-mos Treasury Bill	2.2%

At the November 3, 2011 Investment Committee meeting Staff was authorized to combine Public and Private Equity targets and exposures for the KERS and SPRS plans to help manage portfolio risks caused by the unintended overweight to Private Equity, which is caused by the denominator effect over time.

Signatories

As Adopted by the Investment Committee
Date: July 12th, 2017

Signature: _____
David L. Harris
Chair, Investment Committee

As Adopted by the Board of Trustees
Date: July 12th, 2017

Signature: _____
John R. Farris
Chair, Board of Trustees



Kentucky Retirement Systems
Appendix B: Addendum to the Statement of Investment Policy
Insurance Fund – Asset Allocation / Benchmark Composite
Effective August 1st, 2017

This addendum to the investment policy is issued by the Board of Trustees of Kentucky Retirement Systems (Systems) in connection with investing the insurance funds of the Kentucky Employees Retirement System, the County Employees Retirement System and the State Police Retirement System. This document supersedes all prior documents entitled Addendum to the Statement of Investment Policy.

I. Asset Allocation with Benchmarks

KRS Insurance Fund - Asset Allocation							
Asset Class	Benchmark	Target					Allowable Range (+/- Target)
		KERS	KERS Hazardous	CERS	CERS Haz	SPRS	
Assumed Rate of Return		6.25%	6.25%	6.25%	6.25%	6.25%	
US Equity	Russell 3000	17.5%	17.5%	17.5%	17.5%	17.5%	2.5%
Non US Equity	MSCI ACWI Ex-US IMI	17.5%	17.5%	17.5%	17.5%	17.5%	2.5%
Global Fixed Income	Barclays Universal Index	4.0%	4.0%	4.0%	4.0%	4.0%	1.0%
Credit Fixed Income	Barclays US High Yield	24.0%	24.0%	24.0%	24.0%	24.0%	3.5%
Real Estate	NCREIF ODCE	5.0%	5.0%	5.0%	5.0%	5.0%	1.0%
Absolute Return	HFRI Diversified FOF	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Real Return	Custom – Allocation Specific	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Private Equity ST <5 Yrs	Actual Performance	10.0%	10.0%	10.0%	10.0%	10.0%	1.5%
Private Equity LT 5+ Yrs	Russell 3000 + 300 bps (lagged)						
Cash	Citi Grp 3-mos Treasury Bill	2.0%	2.0%	2.0%	2.0%	2.0%	1.0%

II. Total Fund Blended Benchmark Composite

Insurance Fund Composite		
US Equity	Russell 3000	17.5%
Non US Equity	MSCI ACWI Ex-US IMI	17.5%
Global Fixed Income	Barclays Universal Index	4.0%
Credit Fixed Income	Barclays U.S. High Yield	24.0%
Real Estate	NCREIF ODCE	5.0%
Absolute Return	HFRI Diversified FOF	10.0%
Real Return	Custom – Allocation Specific	10.0%
Private Equity <Short Term <5 Yrs>	Actual Performance	10.0%
Private Equity <Long term 5 Yrs+>	Russell 3000 (lagged 1 qtr) + 300 bps	
Cash	Citi Grp 3-mos Treasury Bill	2.0%

At the November 3, 2011 Investment Committee meeting Staff was authorized to combine Public and Private Equity targets and exposures to help manage portfolio risks caused by the unintended overweight to Private Equity, which is caused by the denominator effect over time.

Signatories

As Adopted by the Investment Committee
Date: July 12th, 2017

Signature: _____
David L. Harris
Chair, Investment Committee

As Adopted by the Board of Trustees
Date: July 12th, 2017

Signature: _____
John R. Farris
Chair, Board of Trustees

To: KRS Board of Trustees
From: Mark Blackwell,
Executive Advisor
Date: July 11, 2017
Subject: Preliminary Investment Procurement Policy

A preliminary Investment Procurement Policy required by Senate Bill II (codified in KRS 61.650(6)) is included in your Boardbook. The primary investment-related topics included in the policy relate to:

- Rules governing external Investment Manager selection;
- Co-Investment opportunities (occurring from currently-approved vendors);
- Rules governing external Investment Consultant selection; and
- Rules for the procurement of investment-related analytical, professional, research and technical services

KRS staff met with Secretary Landrum of the Finance and Administration Cabinet on June 27 for consultation, as required by statute, and recommendations from that consultation have been incorporated. KRS staff have also coordinated with other Kentucky retirement systems on the format and general substance of the Policy.

Upon approval by the Board, the draft Policy will be tendered to the Secretary of the Finance and Administration Cabinet for review and comment. Upon receipt of comments, the Board will be required to adopt or not adopt the recommended changes and submit the final approved document to the Finance and Administration Cabinet to certify whether the policy meets or does not meet best practices for investment management procurement.

Recommendation: Approval of the Preliminary Investment Procurement Policy to be submitted to the Finance and Administration Cabinet.

KENTUCKY RETIREMENT SYSTEMS INVESTMENT PROCUREMENT POLICY

INTRODUCTION

Kentucky law mandates that the Kentucky Retirement Systems (KRS) of the State of Kentucky, through the Board of Trustees, develop and adopt an investment procurement policy (KRS 61.650). The policy must be designed, in consultation with the Secretary of the Finance and Administration Cabinet, to follow best practices for investment procurement. This policy functions in concert with other statutes, administrative regulations and guidelines detailing fiduciary and ethical requirements and parameters for investing trust funds. The law shall control if any inconsistency exists between it and this policy.

The procurement procedures in this policy will be implemented consistent with the board's fiduciary duty established by law to procure the managers, goods and services needed to support the investment or management of KRS assets. The board has delegated investment authority to its Investment Committee.

The board also has designated a portion of KRS's funds to be managed externally, including by investment managers specializing in mandates such as equities, bonds, other publicly traded securities, alternative investments, real estate, timberland and/or any other asset type authorized by Kentucky law. Additionally, the board is responsible for the procurement of investment analytical, professional, research and technical services to carry out the investment or management of KRS assets.

Investment procurements will promote the highest level of competition and best value, giving due consideration to factors including, but not limited to, timing (including emergencies), execution, quality, service and price. Whenever KRS is considering an investment procurement, staff – rather than members of the KRS board and Investment Committee – will communicate directly with the principals of the potential vendor to ensure transparency, accountability and compliance with laws and board policies, including those banning payment of fees or commissions to placement agents.

1. Definitions

Alternative investments (alternatives): investments with general partners or managers in assets such as timberland, private equity and infrastructure that are long-term and illiquid in nature.

Best and final price: request to submit their last and most competitive pricing to secure a contract.

Co-investment opportunities: an opportunity to invest in a company or property outside of an existing limited partnership. Co-investment opportunities arise when the general partner wants to make an investment for the partnership, but the total value of that investment is larger than the partnership can hold. Co-investments generally have much more favorable economics than the investment in the partnership, and are usually only offered to limited partners who have expressed a desire to be shown these opportunities.

Evaluation factors/screening criteria: evaluation criteria that represent the key areas of importance in making a final determination, which shall always include cost/price, as well as other considerations weighted by importance.

External investment manager: a vendor selected by an authorized competitive selection process and that is approved by the Investment Committee, subject to ratification by the board, to invest KRS funds in a manner specified by contract.

Final candidate pool: that subset of vendor(s) from which the final vendor is chosen to provide services to Kentucky Retirement Systems under this Investment Procurement Policy

Highest level of competition and best value: seeking vendors that provide the best performance at the lowest cost (economic efficiency) giving due consideration to factors including, but not limited to, performance improvements (faster, more suitable), timing (including emergencies), execution, quality, trust, reputation, service and price.

Independent: not having conflicts of interest.

Investment consultant: an external firm or individual retained to advise the board and the Investment Committee and assist investment staff in a variety of ways, including as outlined in this policy.

Minimum qualifications: establishes the lowest threshold metric for determining whether a vendor is qualified to reasonably perform the necessary work.

Specialty investment consultant: an external firm or individual retained to advise the board and Investment Committee and assist investment staff in a variety of ways, including recommending general partners or managers for alternative investments.

Investment procurement: all contracts for the investment or management of assets of KRS undertaken subject to fiduciary duty and other legal and ethical standards in accordance with KRS 61.650(6).

Performance attribution: quantifies the relationship between a portfolio's returns and the active decisions of the portfolio manager.

Placement agents: a third party or firm banned by KRS 61.645(21) and board policies from receiving fees or commissions incident to an investment by KRS.

Qualitative analysis: a review of a potential vendor that uses unquantifiable information, such as the impact of vendor management expertise, processes and ownership structure on an investment.

Quantitative analysis: economic, business or financial reviews that aim to understand or predict behavior or events through the use of mathematical measurements and calculations, statistical

modeling and research.

Quiet Period: a specified timeframe when board members and staff are restricted in communications with potential vendors in designated procurements.

Request For Information (RFI): a document sent to vendors to request specific information or clarification on a service or product.

Request For Proposals (RFP): a document soliciting proposals for a procurement based on the terms listed in the offering document.

Request For Quotations (RFQ): an invitation to suppliers to bid on providing specific products or services.

2. External Manager Selection

External investment managers are to be chosen through a competitive selection process coordinated by KRS investment staff and based upon established criteria. The selection process, which typically involves the assistance of KRS's independent investment consultant, results in a recommendation of a manager. The recommendation will be made to the KRS Investment Committee for its review and approval, with ratification by the board no later than at its next quarterly meeting.

KRS normally will use an open search process when conducting a manager search. KRS will identify a list of suitable candidates that are appropriate for the mandate. The list of suitable candidates will be developed by KRS staff and/or the independent investment consultant using a broad-based list of potential managers that meet the screening criteria provided by KRS.

KRS also may use a request process such as an RFP, RFI or RFQ when conducting a manager search. The request may be sent directly to known vendors, will be listed on the KRS website and may be advertised through other means such as financial media. Any advertisement will state clearly the mandate for which KRS is seeking a manager. The advertisement also will state certain minimum requirements that a manager must meet.

A written report documenting the particulars of the search process will be given to the Investment Committee with the recommendation of a manager. The report will include matters such as the screening criteria, the number of managers considered, the number of managers interviewed, the number of firms in the final candidate pool, the names of the firms in the final candidate pool, any prior KRS history with the manager, references checked and summaries of other qualitative and quantitative analyses.

A. Determination of Screening Criteria

Screening criteria may include, but are not limited to: investment processes; investment fee schedule; investment products; dollar value and composition of assets under management; historical performance; years of experience; growth of firm; a manager's history with KRS;

other client relationships (including experience with large public funds); ownership; the number and depth of investment professionals; research capabilities; structure of the proposed investment (separate account, commingled account, limited partnership, etc.); compliance with standard contractual provisions; compliance with the Chartered Financial Analyst (CFA) Institute Code of Ethics; compliance with Global Investment Performance Standards as administered by the CFA Institute; and reporting consistent with the Institutional Limited Partners Association standards. Other criteria may be added for any search.

B. Preliminary Screening

- 1) KRS staff and/or the investment consultant identify a preliminary list of firms that meet the initial set of screening criteria.
- 2) KRS staff and/or the investment consultant contact each firm on the preliminary list to determine if they are accepting new business and to obtain the most current information and any additional information, as required. Follow-up telephone calls, interviews or on-site visits are made as necessary.
- 3) Based upon the established criteria, staff and/or the investment consultant narrows the preliminary list to a candidate pool.

C. Candidate Pool

- 1) KRS staff and/or the investment consultant conduct a more in-depth interview with each candidate. The interviews may be in person or telephonic which allows for the interaction with and evaluation of the person or persons who will be investing on behalf of KRS. Interview topics may include:
 - a) Investment process;
 - b) Any action or investigation concerning a candidate by a regulatory or civil or criminal enforcement agency;
 - c) Any SEC forms, other similar agency reports or prospectuses;
 - d) Qualifications of the firm's representatives, including the portfolio management team;
 - e) A list of institutional references;
 - f) Communication with the firm;
 - g) Employee compensation and ownership structure;

- h) Availability of the contact person and portfolio manager to meet with KRS and responsiveness to board and staff concerns;
 - i) Validation of performance and the continued management by key individuals who will be responsible for fulfilling assignment;
 - j) Accommodation of KRS's priorities;
 - k) Experience with large public funds;
 - l) Fee discussions;
 - m) Conflicts of interest, including the appearance of conflicts of interest. Potential or actual conflicts of interest must be evaluated during due diligence and after engagement under the board's Conflict of Interest and Confidentiality Policy and applicable statutes and regulations. The investment staff will employ reasonable efforts to identify conflicts of interest affecting KRS trustees, employees and managers with respect to all investments.
 - n) Placement agents. Staff will employ reasonable due diligence to ensure that no fees or commissions are paid to a third party or firm banned, either by KRS 61.645(21) or board policies, from receiving fees or commissions incident to an investment by KRS.
- 2) Quantitative analyses also are conducted in addition to the qualitative analyses above. This analysis will include performance attribution and risk management.
- 3) Additional due diligence factors may be necessary in selecting general partners or managers for alternatives (such as timberland, private equity and infrastructure) because of the long-term and illiquid nature of these types of investments. The additional factors include particular considerations such as risk management; diversification; and legal and business matters.
- a) KRS may engage independent specialized consultants to assist in the selection of these managers.
 - b) KRS staff and/or consultants will narrow potential funds to seek best-in-class managers.
 - c) Any new fund offering by an existing manager (also known as a reup) will be evaluated consistent with the process described above (understanding that some of the materials and knowledge for conducting due diligence already may have been obtained based on the prior investment with the manager).
- 4) KRS staff and – if involved in the process – the investment consultant (or, in the case of alternative investments, any engaged specialty investment consultant), will reach a

consensus regarding a manager for the final written recommendation to the Investment Committee. Any approval by the Investment Committee is subject to the review by and ratification of the board, the completion of due diligence and the negotiation and execution of a contract.

- a) It is critical that the terms of the contract accurately reflect the terms and conditions of the authorization. The process may involve highly specialized contract provisions, including investment guidelines, and result in protracted negotiations. Staff may retain outside counsel to assist in the contract process.
- b) The investment manager must certify that no fees or commissions are paid to a third party or firm banned, either by KRS 61.645(21) or board policies, from receiving fees or commissions incident to an investment by KRS.

D. An approval of a manager by the Investment Committee is reported to the board no later than at its next quarterly meeting for review and ratification.

3. Co-Investment Opportunities

Co-Investment opportunities occurring from general partners, funds, or other investment managers already contained in the KRS portfolio and previously approved by the KRS Investment Committee may be authorized by Kentucky Retirement Systems Executive Director Office of Investments in amounts up to 1% of the plan assets, considering the following:

- 1) The co-investments may be made alongside an existing KRS General Partner, provided that the strategy and objective of the partnership investing in the transaction are consistent with those of the partnership in which KRS has an existing commitment.
- 2) Co-investments shall be made on the same (or better) terms and conditions as provided to the partnership;

4. External Investment Consultant Selection

External investment consultants are to be chosen through a competitive selection process coordinated by KRS investment staff and based upon established criteria. The selection process results in a recommendation of a consultant to the KRS Investment Committee for its review and approval, with ratification by the board no later than at its next quarterly meeting.

KRS normally will use an open search process when conducting a consultant search. A list of suitable candidates will be developed by KRS staff using a broad-based list of potential consultants that meet the screening criteria provided by KRS.

KRS also may use a request process such as a request for proposal (RFP), request for information (RFI) or request for quotation (RFQ) when conducting a consultant search. The request may be sent directly to known vendors, will be listed on the KRS website and may be advertised through

other means such as financial media. Any advertisement will state clearly the mandate for which KRS is seeking a consultant. The advertisement also will state certain minimum requirements that a consultant must meet.

A written report documenting the particulars of the search process will be given to the Investment Committee with the recommendation of a consultant. The report will include matters such as the firm name, screening criteria, the number of consultants considered, the number of consultants interviewed, the number of firms in the final candidate pool and their names, any prior KRS history with the consultant, references checked and summaries of other qualitative and quantitative analyses.

A. Determination of Screening Criteria.

Screening criteria for an External Investment Consultant may include, but are not limited to: depth, breadth and experience in consulting similar plans, organizational strength, firm stability, key personnel, financial condition, industry reputation, client list, soundness and compatibility of investment philosophy and approach, breadth and capability of technological resources, research platform, risk reporting, fee proposal, size of public institutional, tax-exempt client AUM; size of pension fund client assets; consultant's history with KRS; other client relationships (including experience with large public funds); ownership; the number and depth of investment professionals; research capabilities; compliance with standard contractual provisions; compliance with the Chartered Financial Analyst (CFA) Institute Code of Ethics; compliance with Global Investment Performance Standards as administered by the CFA Institute; and reporting consistent with the Institutional Limited Partners Association standards. Other criteria may be added for any search.

B. Preliminary Screening.

- 1) KRS staff will identify a preliminary list of firms that meet the initial set of screening criteria.
- 2) KRS staff will contact each firm on the preliminary list to determine if they are accepting new business, would be interested in being a candidate, and to obtain the most current information and any additional information, as required. Follow-up telephone calls, interviews, or on-site visits are made as necessary.
- 3) Based upon the established criteria, KRS staff narrows the preliminary list to a candidate pool.

C. Analysis.

- 1) KRS staff will conduct a qualitative and quantitative analysis utilizing criteria developed by KRS staff identified to meet the External Investment Consultant needs of the Agency.

- 2) KRS staff will utilize, as necessary, additional diligence factors for consideration in selecting an External Investment Consultant. KRS staff may conduct interviews, in-person or telephonic, which allows for the interaction with and evaluation of the person or persons who will be providing consulting services. References will be checked.
- 3) It is critical that the terms of the contract accurately reflect the terms and conditions of the authorization. The process may involve highly specialized contract provisions, including investment guidelines, and result in protracted negotiations. Staff may retain outside counsel to assist in the contract process.
- 4) KRS staff will reach a consensus regarding an External Investment Consultant to be provided as a final written recommendation to the Investment Committee. Any approval by the Investment Committee is subject to the review and ratification of the board, the completion of due diligence and the negotiation and execution of a contract. An approval of an External Investment Consultant by the Investment Committee is reported to the board no later than at its next quarterly meeting for review and ratification.

5. Procurement of investment analytical, professional, research and technical services

KRS will procure investment-related goods and services through one of the methods below. Nothing in this section shall apply to the procurement of ordinary goods and services that are common to other KRS administrative functions.

- A. Procurement of goods and services costing **less than \$5,000** during a fiscal year will be determined by KRS staff based upon best value comparing known vendors. In comparing vendors, staff will promote the highest level of competition.
- B. Procurement of goods and services costing **from \$5,000 to \$24,999** during a fiscal year will be determined by any one of the Executive Director of Kentucky Retirement Systems, Executive Director Office of Operations, Executive Director Office of Investments, or any KRS employee designated to act in their stead, based upon best value comparing at least three (3) known vendors, who's price quotations may be obtained by telephone, catalog, or internet.
- C. Procurement of goods and services **equal to or greater than \$25,000** in cost during a fiscal year will be determined solely by the Executive Director of Kentucky Retirement Systems, or any KRS employee designated to act in his/her stead, based upon best value comparing of at least three (3) known vendors, who's price quotations must be obtained in written form on the vendor's letterhead. The price quotations received and comments by KRS concerning the basis for placing the order shall be recorded in writing and shall be placed in a file to be maintained by KRS. These records are retained by KRS for record, audit, and review.
- D. KRS may utilize a price contract established by the Commonwealth of Kentucky, the U.S.

General Services Administration or U.S. Communities (a national government purchasing cooperative) so long as the vendor sells to KRS at or below the contract price and under the same terms and conditions.

- E. KRS may publish a request for proposal (RFP), request for information (RFI) and/or request for quotation (RFQ) for goods or services. The request may be sent directly to known vendors; will be listed on the KRS website; and may be advertised through other means, such as financial media, as appropriate to promote the highest level of competition. The request will describe the goods or services required, the type of information and data required of each vendor, the relative importance of qualifications and the evaluation factors to be used. After determining the best value of proposals received, KRS may negotiate a contract for goods or services with a vendor. If contract terms cannot be agreed upon with the highest-ranking vendor, negotiations may be conducted with other vendor(s) in the order of ranking as defined by the request. The evaluation of best value will be documented by KRS. The documentation will include specifics of the process used in selecting the vendor. Those specifics may include: price, the number of vendors considered, the number of vendors interviewed, any prior KRS history with the vendor, references checked and summaries of other qualitative and quantitative analyses.
- F. Exceptions to using the methods of procurement above include, but are not limited to: goods and services available only from one or two uniquely qualified sources; advertisements and public notices; and copyrighted computer software. The reason for the exception will be documented by the executive secretary or a deputy executive secretary.

6. Contract Renewal

As applicable, contract renewals, whether they be annual or longer-term agreements, use criteria such as continued need of vendor and/or asset class; level of trust; continuity of ownership, leadership and process; long-term performance; and competitiveness of fees. KRS staff will submit a formal recommendation regarding the renewal of a contract to the Investment Committee for approval. The submission to the committee will include a description of the process used in making the recommendation to renew the contract. Any approval by the Investment Committee is subject to the review by and ratification of the board, the completion of due diligence and the negotiation and execution of a contract.

7. Emergency Procurement

The existence of an emergency may cause an immediate need for managers, goods and/or services that cannot be procured through KRS's normal investment procurement procedures. The determination that an emergency exists is to be made by, and procurement actions approved by, any two of the Executive Director, the Deputy Executive Director, or the Chief Investment Officer. Thereafter, no later than at the next quarterly meetings of the board and Investment Committee, the emergency and procurement actions incident to the emergency will be reported.

8. Quiet Period

To ensure a competitive and fair procurement, KRS staff, the board and committee members will follow a quiet period with potential vendors during specified timeframes. A quiet period is a specified timeframe when staff, the board and committee members are restricted in communications with potential vendors in designated procurements. Staff assigned to the procurement are not covered by the quiet period and will notify the board, committee and other staff upon initiation of a quiet period and a description of the types of vendors to whom it applies. During quiet periods, covered staff, the board and committee members will not communicate with potential vendors or with an existing vendor on matters pertaining to the procurement, except during board or committee meetings.

A quiet period will cease when the approval of a vendor has been ratified by the board, or if the search process or quiet period are otherwise ended.

9. Other Laws and Policies that Comprise KRS Investment Procurement Policy

This policy is to be implemented in conjunction and accordance with the laws and other policies that, cumulatively, establish the comprehensive KRS Investment Procurement Policy under which all KRS investment procurements are made. These laws and other policies are as follows, but are not limited to:

- A. Executive Branch Code of Ethics (KRS Chapter 11A);
- B. Board as fiduciary (KRS 61.650, 78.790, 16.642);
- C. Pension Fund investment requirements (KRS 61.650);
- D. KRS conflict of interest prohibitions (KRS 61.655);
- E. KRS confidentiality requirement (KRS 61.661);
- F. Insurance Fund investment requirements (KRS 61.701 and 105 KAR 1:410); and
- G. Kentucky Retirement Systems Board of Trustees Election Policy and Procedure, Statement of Bylaws and Committee Organization, Trustees Education Program, Conflict of Interest and Confidentiality Policy, Policy and Procedures Regarding Open Records Request, CFA Code of Ethics and Standards of Professional Conduct, CFA Asset Manager Code of Professional Conduct, and CFA Code of Conduct for Members of a Pension Scheme Governing Body.

Adopted _____, 2017

CERTIFICATION

This certifies that the Investment Procurement Policy of the Kentucky Retirement Systems of the State of Kentucky meets best practices for investment management procurement as specified by KRS 61.650(6).

William M. Landrum III
Secretary of the Finance and Administration Cabinet
Commonwealth of Kentucky

Date



Kentucky Retirement Systems

Statement of Investment Policy Adopted
July 12th, 2017

This Statement of Investment Policy is issued by the Board of Trustees of the Kentucky Retirement Systems (Systems) in connection with investing the pension and insurance funds of the Kentucky Employees Retirement Systems, the County Employees Retirement Systems and the State Police Retirement System. This document supersedes all prior documents entitled Statement of Investment Policy.

I. The Board of Trustees

The retirement plans administered by the Kentucky Retirement Systems are a “Qualified Pension Plan” under Section 401 of the Internal Revenue Code. Additionally, KRS 61.701 establishes health insurance benefits to recipients of the Kentucky Employees Retirement Systems, County Employees Retirement Systems and State Police Retirement System. KRS 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The Board shall administer the fund in the same manner as the retirement funds.

The Board of Trustees authorizes and directs the appointment of an Investment Committee with full power to act for the board in the acquisition, sale and management of the securities and funds of the Systems in accordance with the provisions of the Statutes and Investment Policy of the Board. The Board shall review the actions of the Investment Committee at each quarterly Board meeting.

II. The Investment Committee

The Investment Committee consists of nine members of the Board of Trustees. The 6 members appointed by the Governor, and 3 members of the committee being appointed by the chairperson of the Board of Trustees. In accordance with statute, six (6) positions are filled by the Trustees that were appointed to the board as persons with specific experience (Section 61.645.1.e.2). The committee acts on behalf of the board on investment related matters.

The Investment Committee has the following oversight responsibilities:

- A. Assure compliance with this policy and all applicable laws and regulations.
- B. Approve the selection and termination of service providers. If a situation warrants a termination of an investment manager prior to the next available investment committee, the Chief Investment Officer can terminate an investment manager relationship with a detailed review of the situation to occur at the next investment committee.

- C. Meet no less than quarterly to evaluate whether this policy, the investment activities and management controls and processes continue to be consistent with meeting the Systems' goals. Mandate actions necessary to maintain the overall effectiveness of the program.
- D. Review assessment of investment program management processes and procedures, and this policy relative to meeting stated goals.

III. Staff Responsibilities

The Chief Investment Officer is responsible for administration of investment assets of the Systems consistent with the policies, guidelines and limits established by the law, this Statement of Investment Policy and the Investment Committee.

The Chief Investment Officer receives direction from and reports to the KRS Investment Committee on all investment matters, including but not limited to the following:

- A. Maintaining the diversification and risk exposure of the funds consistent with policies and guidelines.
- B. Assess and report on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines.
- C. Monitoring and assessing service providers, including not less than annual onsite visits, to assure that they meet expectations and conform to policies and guidelines.
- D. Recommend changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; act as liaison on all investment related matters.
- E. Communicating with the mass media and other agencies, entities or institutions regarding investment related issues.
- F. Identify issues for consideration by the Investment Committee and prepare recommendations regarding such matters.
- G. Preparing for each proposed investment a memo to the Investment committee covering the pertinent details including but not limited to: Amount of the investment, type of investment, purpose, opportunity/goal, risks, volatility assumptions, liquidity, structure, fees, background of investment firm with reasons for selection, list of other firms considered, which plans will invest, and the reasons why specific plans may be excluded.

The Chief Investment Officer or designee is authorized to execute trades on fixed income and equity securities (including ETF's) and to execute proxies for the Board consistent with this Policy.

To carry out this Policy and investment related decisions of the Board, the Chief Investment

Officer or designee is authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions or other investment functions.

IV. Service Providers

A. Investment Managers

In instances where the Investment Committee has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

1. Investment Managers shall be qualified and agree to serve as a fiduciary to the Systems and shall generally have been in the business of investment management for large United States institutional investors for at least three to five years.
2. Investment Managers shall manage assets in accordance with this Policy and any additional guidelines established by contract, as may be modified in writing from time to time.
3. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
4. The assets managed by any one active or passive investment manager shall not exceed 15% of the assets in the pension and insurance funds.
5. All investment management services will be contracted according to the KRS Investment Procurement Policy established by the Board of Trustees.

B. Custody Bank

The Board shall hire custodians and other agents who will be fiduciaries to the Systems and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of the Systems and other duties as agreed to by contract.

C. Investment Consultants

Qualified independent investment consultants may be retained by the Systems for asset allocation studies, asset allocation recommendations, performance reviews, manager searches and other investment related consulting functions and duties as set forth by contract.

D. Selection

Qualified investment managers, custody banks, investment consultants and other service providers shall be selected by the Investment Committee in accordance with the KRS Investment Procurement Policy. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the RFP/RFI (if utilized). In order to create an efficient and effective process, the Investment Committee or Chief Investment Officer may, in their sole discretion, utilize RFI, RFP, third

party proprietary software or database, review of existing service provider capabilities or any combination of these or other methods to select a service provider.

V. Investment Philosophy

The Trustees of the Kentucky Retirement Systems recognize their fiduciary duty not only to invest the Systems' funds in formal compliance with the Prudent Person Rule but also to manage those funds in continued recognition of the basic long term nature of those systems. The Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in this document, that the assets of the systems shall be proactively managed -- that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of the conscious exercise of discretion.

The Trustees recognize that, commensurate with their overall objective of maximizing long-range return while maintaining a high standard of portfolio quality and consistency of return, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their Fiduciary Responsibilities and the concept of Modern Portfolio Theory, the Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the Trustees rely upon appropriate professional advice from multiple service providers.

The Trustees and other fiduciaries shall discharge their duties with respect to the Systems: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations and other instruments governing the Systems.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of the Systems income or assets without adequate security and reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

VI. Investment Objectives

The Board of Trustees realizes that prudent investment management is a duty. In fulfillment of this duty, the Board of Trustees recognizes that while long-term objectives are important, it is also necessary that short-term benchmarks be used to assess the periodic performance of the investment program.

Accordingly, the Board of Trustees has established the following investment objectives:

- Long-Term: Defined as a period of time exceeding twenty years.

In the long-term, the total assets of the Systems should achieve a return which exceeds the actuarially required rate of return of each plan. In addition to exceeding the actuarially required rate of return, the total fund return should exceed the return achieved by its blended performance benchmark.

- Short-Term: Defined as any period shorter than the defined Long-Term period.

The returns of the particular asset classes of the System, measured on a rolling basis, should seek to exceed the returns achieved by comparable passive market indices as described in the appropriate Addendum of this statement.

VII. Derivative Securities and Leveraging

Definition:

A derivative is broadly defined as a financial instrument whose value, usefulness, and marketability is derived from or linked to the value of an underlying security.

Definitions and examples in the investment universe include:

Forward Contracts - a forward contract is a non-standardized, Over-the-Counter (OTC) contract between two parties, governed by ISDA agreements, to buy or sell an asset at a specified future time at a price agreed to today. This is in contrast to a spot contract, which is an agreement to buy or sell an asset at a set price today. It costs nothing to enter a forward contract. The party agreeing to buy the underlying asset in the future assumes a long position, and the party agreeing to sell the asset in the future assumes a short position. The price agreed upon is called the delivery price, which is equal to the forward price at the time the contract is entered into. An example of a forward contract is a currency forward contract. Currency forward contracts are commonly used to hedge foreign currency risk, which is an inherent risk of investing in international assets.

Futures Contracts - a futures contract is a standardized, exchange traded contract between two parties to buy or sell a specified asset of standardized quantity and quality at a specified future date at a price agreed to today (the futures price). Futures contracts are not "direct" securities like stocks, bonds, rights or warrants. The party agreeing to buy the underlying asset in the future assumes a long position and the party agreeing to sell the asset in the future assumes a short position. Futures may be settled in cash or physically settled depending on the characteristics of the underlying asset and the specifications of the contract. If futures are physically settled the buyer must make arrangements for taking physical delivery. An example of a futures contract is the S&P 500 Futures contract which is traded at the Chicago Mercantile Exchange. The S&P 500 futures contract is commonly used for equitization of cash held in the equity portfolio of a fund so as to keep un-invested cash levels at a minimum. Futures contracts have many other uses for portfolio managers and are considered a valuable tool for adding flexibility and cost effectiveness to the management of a portfolio.

Options - Options are derivative financial instruments that may be standardized, exchange traded, or OTC contracts that specify a contract between two parties for a future transaction on an asset at a reference price. The buyer of the option gains the right, but not the obligation, to engage in that transaction, while the seller incurs the corresponding obligation to fulfill the transaction. The price of an option is derived from the difference between the reference price and the value of the underlying asset (commonly a stock, a bond, a currency or a futures contract) plus a premium based on the time to maturity, expected volatility, and the interest rate environment. Other types of options exist, and options can in principle be created for any type of valuable asset.

An option which conveys the right to buy an asset is called a call; an option which conveys the right to sell an asset is called a put. The reference price at which the underlying asset may be traded is called the strike price or exercise price. The process of activating an option and thereby trading the underlying asset is referred to as exercising it. While there are several styles of option contracts the two most common are American-style contracts and European-style contracts. American-style options contracts may be exercised at or before expiration while European-style options may only be exercised at expiration. Most options have an expiration date while others have strike reset points. If the option is not exercised by the expiration date, it becomes void and worthless.

In return for assuming the obligation, called writing the option, the originator of the option collects a payment, a premium, from the buyer. The writer of an option must make good on delivering (or receiving) the underlying asset or its cash equivalent, if the option is exercised.

An example of an option contract is an S&P 500 put contract. These contracts may be used by a portfolio manager to purchase downside portfolio protection or may be combined with other options contracts to temper volatility in the portfolio, thus reducing risk.

Swaps and Swaptions – Swaps are derivative financial instruments in which counterparties exchange certain benefits of one party's financial instrument for those of the other party's financial instrument. (Swaptions are simply options on swaps) Most swaps are non-standardized, OTC contracts between two parties and are governed by ISDA agreements. Some types of swaps are also exchanged on public markets such as the Chicago Mercantile Exchange, the Chicago Board Options Exchange, Intercontinental Exchange and Frankfurt-based Eurex AG. The benefits of a swap depend on the type of financial instruments involved. At the initiation of a swap contract, two counterparties agree to exchange one stream of cash flows against another stream. These streams are called the legs of the swap. The swap agreement defines the dates when the cash flows are to be paid and the way they are calculated. Usually at the time when the contract is initiated, at least one of these series of cash flows is determined by a reference point such as an interest rate, foreign exchange rate, equity price or commodity price. The cash flows are calculated on a notional principal amount, which is usually not exchanged between counterparties. Value transfers can be made with cash or [collateral](#) depending on contract terms.

An example of a swap contract is an interest rate swap. An interest rate swap is an agreement to exchange a series of cash flows on periodic settlement dates over a certain

time period. The duration properties of interest rate swaps are the primary reason for their popularity as an effective portfolio management tool for fixed income managers. If a fixed income manager agrees to pay a floating rate and receive a fixed rate in a swap, s/he will be increasing duration in her/his portfolio.

Warrants - a warrant is a type of derivative security that entitles the holder to buy or sell the underlying stock of the issuing company at a fixed exercise price until the expiry date. Warrants may be either exchange traded or OTC in nature. OTC Warrants are typically long term in nature.

Warrants are frequently attached to bonds (to reduce interest rates for the issuer) or preferred stock (to reduce dividend payments) as a sweetener. Warrants can also be used in private equity deals. Frequently, these warrants are detachable, and can be sold independently of the bond or stock. (Typically traded OTC)

This list is not intended to be an all-encompassing list of derivative contracts available for use in the portfolios, but rather, to display a sample of the most common types of contracts and describe the spirit of their intended use in the portfolios.

Derivatives Permitted Use:

KRS permits external managers and Investment Division (Staff) to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

Exposure:

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

Cost Efficiency:

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

Risk Management:

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

Derivatives Restricted Use:

Settlement:

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall KRS agree to take physical delivery on a futures contract.

Position Limits:

Futures and options positions entered into by KRS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

Over-the-Counter (OTC):

Investments in securities not traded on public exchanges that are deemed Over-the-Counter (OTC) in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of KRS under the transactions. All ISDA Master Agreements entered into by or on behalf of KRS by the Investment Division (Staff) and external manager pursuant to an Agency Agreement shall provide that Netting applies. (Netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The Investment Division (Staff) and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

Derivatives Applications Not Permitted:

Speculation:

Except for investments in alternative, absolute return investments, and real return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to KRS. Derivatives are considered

speculative if their uses have no material relation to objectives and strategies specified by KRS IPS or applicable to the portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the KRS IPS or applicable regulatory requirements.

Leverage:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.

The above is not intended to limit KRS from borrowing to cover short-term cash flow needs nor prohibit KRS from loaning securities in accordance with a securities lending agreement.

VIII. Asset Allocation Guidelines

In establishing asset allocation guidelines the Board recognizes that each system has its own capacity to tolerate investment volatility, or risk. Therefore, each system has been studied and asset allocation guidelines have been established on a system by system basis. The Board will cause the asset allocation guidelines of each system to be reviewed annually. The Board will provide the Investment Committee with the results of any asset liability study and guidance for determining the needs of the systems.

The intent of the Board of Trustees in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the Board of Trustees is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed Five percent (5%) of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.

The individual plan level asset allocations of the each Pension and Insurance Fund constituent will be reviewed monthly by staff relative to its target asset class allocation, taking into account any tactical policy shift directed by the Investment Committee. Staff shall reallocate the assets when the actual asset class allocation deviates from the policy plus any tactical shift by a minimum of 1%, and a maximum of 15% of the allocation target (if target allocation is 20% then action required when +/- 3%).

Regarding individual investment manager initial allocations, staff will get approval at the Investment Committee meeting for a specific dollar amount intended to be committed to a closed-end fund such as private equity or real estate funds and will get approval for a percent of plan assets for open-end investments such as public equity, public fixed income, and absolute return managers. For those open-end funds where assets can be added or

subtracted, the Chief Investment Officer will have full discretion to reduce an investment manager's allocation or fire a manager, and will have limited discretion to add to an investment manager's allocation. Limited discretion is defined as doubling the size of any Investment Committee approved investment where the of that investment that is less than or equal to 1% of total assets, or adding an additional 1% of capital to any investment committee approved amount that is greater than 1% of total assets. In neither case will this occur prior to the one-year anniversary of the amount approved by the Investment Committee, and must be reported to the Investment Committee at the next scheduled meeting

In keeping with its responsibility as Trustee and wherever consistent with its fiduciary responsibility, the Board encourages the investment of the fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Domestic Equity Investments

Investment may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual domestic equity account shall have a comprehensive set of investment guidelines prepared, which contains a listing of permissible investments, portfolio restrictions and standards of performance for the account.

The internally managed equity index funds are intended, consistent with the governing plan documents, to gain exposure to a broad asset sector to replicate the characteristics of the asset class, to minimize administrative expenses and to help achieve overall portfolio objectives. These objectives can be achieved through several management techniques, including but not limited to, portfolio optimization, non-reinvestment of index dividends and other management techniques intended to help achieve the objectives of the entire pension fund.

B. International Equity Investments

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual international equity account shall have a comprehensive set of investment guidelines which shall contain a listing of permissible investments, portfolio restrictions and standards of performance for the account.

C. Fixed Income Investments

Fixed Income investments will be similar in type to those securities found in the KRS fixed income benchmarks and the characteristics of the KRS fixed income portfolio will be similar to the KRS fixed income benchmarks. The fixed income accounts may include, but are not limited to the following fixed income securities: U.S. Government and Agency bonds, investment grade U.S. corporate credit, investment grade non-U.S. corporate credit, non-investment grade U.S. corporate credit including both bonds and bank loans, non-investment grade non U.S. corporate credit including bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities, and emerging market debt including both sovereign EMD and corporate EMD and asset class relevant ETF's.

Each individual fixed income account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

D. Private Equity Investments

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made for the purpose of creating a diversified portfolio of alternative investments. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. They have low correlation to other investment classes and therefore can contribute to reducing the risk and enhancing the returns of a total portfolio, as well as providing portfolio diversification. Examples of such investments include, but are not limited to, venture capital partnerships, private equity, leveraged buyouts and funds, private debt, timberland, oil and gas partnerships, commodities and private placements. While it is expected that the majority of these assets will be invested within the United States, a portion has been allocated to non-US investments. These non-U.S. investments are not restricted by geography.

Guidelines for Private Equity

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exist major competition for deal flow on the part of both investor and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled vehicles and often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner or sponsors a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner are critical to the economic incentives and ultimate net performance of the partnership.

Over the long term, KRS will use a specified index plus risk premium approach.

Investment Strategy and Plan Guidelines

To strengthen the diversification of the investments, several guidelines will be utilized in Staff's formulation and recommended annual investment strategy and plan. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contact negotiations, appropriate sizes for investments, and the preferred alignment of interests.

Investment Vehicles: KRS will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, the Fund will subscribe as a Limited Partner to limited partnership vehicles sponsored by such specialty external investment managers. KRS may also gain exposure by utilizing the following vehicles: limited liability companies and co-investments alongside the Fund's existing or potential limited partnerships.

Investment Timing Risks: Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impacting the current and long term net return of the portfolio. In addition, mindful of vintage year diversification, KRS should seek to identify attractive commitments annually, further ensuring the portfolio invests across business cycles.

General Partner Diversification: Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than fifteen (15) percent of the KRS Pension or Insurance total allocation to private equity investments may be committed to any one partnership, without the approval of the Board.

Geographical Diversification: To ensure geographical diversification, the target range for total commitments outside of the United States will be 15-45% through commitments to funds located and or investing both in and outside of the United States.

Industry/Sector Concentration: As fallout of diversified commitments outlined above, it is expected that the portfolio will be generally diversified by sector/industry. KRS will maintain diversification by ensuring:

No more than 35% of total net assets of the private equity portfolio may be invested in a single sector of the domestic economy.

No more than 20 % of total net assets of the private equity portfolio may be invested in a single industry within a particular sector.

No more than 10% of total net assets of the private equity portfolio may be invested in any single equity or debt related assets.

Subcategory Strategy

The private equity portfolio includes strategic subcategory classifications including venture capital, buyouts and debt-related. The target percentages set forth below for each category are based on invested capital. For specific plan allocations to Private Equity, Please refer to Appendix A for the Pension funds and Appendix B for the Insurance funds.

The sub-asset target allocations to Venture Capital, Buyouts, and Debt-related for specific plan allocations refer to Appendix A for the Pension funds and Appendix B for the Insurance fund are based on market value and will have a range of +/- 10%:

E. Real Estate Investments

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private REITs (real estate investment trusts), public real estate operating companies, and real estate related debt.

Private real estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short term performance discrepancies versus public benchmarks, KRS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

Relative Return: The real estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index ("NCREIF ODCE") lagged 1 calendar quarter.

Absolute Return: The long term real return objective (returns adjusted for inflation) for the KRS real estate portfolio is five percent (5%) over the *Barclays Capital U.S. 7-10 Year Treasury Bond Index*, net of investment management fees. This return shall be calculated on a time-weighted basis using industry standard reporting methodologies.

KRS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk adjusted returns through active management and ability to access managers with the expertise and capabilities to exploit market inefficiencies in the asset class. The illiquid nature of real estate investments combined with the complexity of investments makes it difficult for casual investors to effectively access the asset class effectively. It is our belief that through active management and by investing in top tier managers with interests aligned through co-investment and incentive based compensation, KRS can maximize its risk adjusted returns. This active management approach will be pursued.
- Diversification benefits through low correlations with other asset classes, primarily the U.S. equity markets.
- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures and the increases in material and labor costs during inflationary periods.
- Permit KRS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Allocation to Real Estate Asset Class

KRS divides the real estate investment universe into core, value-add, opportunistic and public securities sectors, with descriptive attributes of each listed below. It should be noted that targeted returns for each sector denoted in the descriptions below are based on industry guidelines and may vary based on different points in market cycles and changes in general inflation levels.

A. Core Properties

- Operating, substantially leased office, retail, industrial or apartment properties. Several alternative property types may be included in Core such as self-storage, medical office, ground leases, senior housing and triple net leased properties to the extent they exhibit similar risk and return attributes to the traditional Core property types.
- Generally have institutional qualities for size, physical attributes and location.
- Target total returns of 3-5% per year (net of fees and promoted interest) above the *Barclays Capital U.S. 7-10 Year Treasury Bond Index*, with a high proportion of the total return to be generated from current income and a small proportion of the total return generated from appreciation.

- Leverage for core properties is moderate with an upper limit of 50% loan to value.

B. Value Added Properties

- Office, retail, industrial or apartment properties that have moderate risk associated with their investment. Several alternative property types may be included in Value-Added such as self-storage, medical office, senior housing and triple net leased properties to the extent they exhibit similar risk and return attributes for Value-Added investments.
- Value-Added investments are targeted to capitalize on defects with specific properties that can be identifiable and correctable through leasing, re-development, management and/or recapitalization.
- Target returns for value added investments are 5-7% above the *Barclays* Capital U.S. 7-10 Year Treasury Bond Index per year (net of fees and promoted interest).
- Leverage for value added investments is generally limited to approximately 65% loan to value.

C. Opportunistic Investments

- Opportunistic investments can be comprised of any property sector. Opportunistic investments can include office, retail, industrial and apartments with high-risk attributes. In addition, hotels, operating companies, development, land and distressed properties are all examples of opportunistic investments
- Leverage for opportunistic investments can be 75% loan to value or higher in certain cases.
- Opportunistic investments will target returns in excess of 7% (net of fees and promoted interest) above the *Barclays* Capital U.S. 7-10 Year Treasury Bond Index in order to compensate for the additional risk commensurate with the increased risk compared to core property investments.

D. Public Securities

- Public Real Estate securities ("Public Securities") do not allow for control over the assets or management. Examples of public securities may include REITs and CMBS, among others. Investment strategies using public securities may be classified as core, value-add, or opportunistic strategies based on the characteristics of those specific investments and are reviewed on a case by case basis. Real estate strategies utilizing public securities that provide daily

liquidity to KRS shall be required to be classified as “Public Securities” under the Investment Policy Statement.

- Public Securities generally have higher risk and return characteristics than Core properties due to higher leverage and operating company risks. In addition, the daily pricing of securities result in additional reported volatility of returns.
- Daily pricing and public market trading provide liquidity. However, due to small float and limited market capitalization of Public Securities, improved liquidity may come at a price.
- The emergence of the international Public Securities market has broadened the universe to include Asia, European, Australian and North American property companies.
- Expected returns are dependent on investment strategy of the public security which shall be identified at time of investment and the return expectation will match one the above the categories

Diversification and Risk Management Guidelines

The policy ranges for the real estate portfolio sectors have been set with reasonably wide ranges in order to allow KRS to capitalize on market inefficiencies and attractive opportunities, while also maintaining a certain level of low risk stability to the portfolio. Since many of the real estate investments will be private market investments in commingled funds, KRS will not have precise control over the actual real estate exposure. Funding, de-funding and rebalancing the portfolio may be protracted (like private equity) due to the asset classes illiquid characteristics.

A. Sector Diversification

KRS will seek to limit investments using the following diversification limits:

	Target	Range
Core:	70%	50% to 90%
Value Added:	20%	10% to 30%
Opportunistic:	10%	0% to 20%
Public Securities:	0%	0% to 100%

B. Investment Vehicles

Due to the size of KRS's portfolio, the preferred investment structure is commingled funds. Exceptions may be for public equity accounts which may be efficiently invested through a separate account or single property investments. Single property investments, outside of a joint venture with an approved property manager or co-investment with an approved real estate fund manager, shall be limited to no more than 5% of the total real estate allocation and a presentation to the full board prior to investment.

KRS may also consider co-investment opportunities in cases where discounted fees and appropriate diversification can be achieved for a particular investment opportunity.

C. Diversification

KRS will seek to control risk in its real estate investment program by diversifying its investments by investment manager, property type and location diversification.

D. Investment Manager

KRS will limit the amount committed to any one investment manager to the larger of thirty percent (30%) of the total allocation for real estate investments or 1% of the total funds value at the time of commitment.

E. Property Type Diversification

KRS will seek to limit investments by property type diversification using the following limits:

Office: 0% to 40% of the total allocation

Retail: 0% to 40% of the total allocation

Apartment: 0% to 40% of the total allocation

Industrial: 0% to 40% of the total allocation

Other: 0% to 40% of the total allocation (other includes hotels, self-storage, parking, etc.) Geographic Diversification

The KRS real estate portfolio shall seek to include investments diversified across various locations with different economic concentrations. The portfolio shall be at least 80% invested in U.S. markets.

Diversification will be monitored with respect to major regional areas; e.g. Pacific, Mountain, Southwest, Southeast, Mideast, Northeast, East North Central, West North Central. International monitoring will be carried out in a similar fashion as that used domestically.

F. Total Leverage

KRS recognizes that leverage is an inherent component of real estate investments and use of leverage can be an effective means to increase overall returns from time to time on a risk-adjusted basis. There will be a goal to a limit of 65% of the total portfolio placed on the use of leverage. The measurement will be the weighted average of investments with their max allowed leverage.

All portfolio leverage will be secured through the individual fund investments. There will be no recourse debt permitted.

G. Vintage Year Risks

KRS will seek to avoid any concentrated vintage year risks.

F. Real Return Investments

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real return strategies are not necessarily a separate asset class but may include real assets, such as infrastructure, real estate, commodities, and natural resources among others, as well as financial assets that have a positive correlation to inflation. This can include “real” bonds such as TIPs (and other inflation linkers) or “real” stocks such as REITs, MLPs, and oil & gas stocks. Additionally, real return managers may attempt to add value by tactically allocating to various asset classes according to how each asset class performs across an economic cycle and the manager’s perception of where we are in the cycle. The goal is to invest in inflation sensitive assets during inflationary periods, and avoid those assets in deflationary periods, thus providing a positive real return across the cycle.

The real return opportunity set may include numerous vehicles to access a wide variety of investment styles and strategies. These investment vehicles may include mutual funds, ETFs, separately managed accounts as well as hedge funds (open-end limited partnerships) and private equity (close-end limited partnerships). The list of strategies that the KRS Real Return Portfolio may use includes, but is not limited to, the following:

- GTAA (Global Tactical Asset Allocation)/ Global Macro: GTAA or macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. GTAA and macro strategies typically invest in all major assets classes including equity markets, credit and debt instruments, currencies/interest rates, and commodities. These strategies tend to focus on economic factors that would suggest an opportune time to invest in a given asset class, and will change their allocations actively

over time. Within a real return portfolio, these strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time.

- Inflation Linked Securities are securities that directly tie coupon payments or principal increases to an inflation index, such as CPI. These strategies could include not only US TIPS, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.
- Inflation Sensitive Equities include publicly traded equity and equity related securities in companies which have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy companies, basic materials and miners, natural resource stocks, and listed infrastructure. This category can also include REITs, MLPs as well as ETFs and index products on REITS, MLPs, natural resource stocks, etc.
- Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index), to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.
- Private Property: For the purposes of this policy, private property refers to the ownership of an idiosyncratic, physical asset that is predominately fixed and/or permanent or at least substantially long-lived. This includes real estate, such as land and any improvements to or on the land, as well as timberland and farmland. Timberland investing involves the institutional ownership of forest for the purpose of growing and harvesting the timber. The timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily if not exclusively for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic systems that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high cost, capital intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.
- Natural Resources: Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment

strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.

- **Private Assets:** Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business's operations for cash, and which are held for their role in contributing directly to the business's ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.
- **Other (Opportunistic Inflation Hedge):** Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.

The Real Return allocation shall seek to achieve the following:

- 1) **Short-term benchmark:** For periods less than five years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.
- 2) **Strategic objective:** For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.

Portfolio Guidelines

No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual plan's liquidity needs, funding status, and allocation targets on an investment by investment basis.

G. Cash Equivalent Securities

Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds, variable rate demand notes, government and agency bonds, mortgages, municipal bonds, and collective STIFs, money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

The Systems' fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

H. Absolute Return Strategies

The purpose of the Absolute Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of diversification for the overall plan. Absolute return strategies, by definition, are not necessarily a separate asset class, but broaden the opportunity set within existing asset classes such as stocks, bonds, currencies and commodities by going both long and short, employing derivatives and leverage, shortening and extending investment horizons, and moving across public and private markets, amongst others. By focusing on the idiosyncratic risks of security selection and often attempting to

minimize systematic market risks through hedging activities, absolute return managers can make investment decisions unconstrained by restrictive relative benchmarks such as the S&P 500 or Barclay's Aggregate Bond Index, and add value to portfolios by achieving favorable risk-adjusted returns in most market environments while also reducing overall plan volatility.

The absolute return opportunity set is generally considered to include hedge funds and other strategies attempting to achieve positive returns without heavy reliance on the assumption of traditional systematic risk factors. Investment vehicles used to access this opportunity set can include limited partnerships, but also mutual funds, ETFs, and separately managed accounts, amongst others. Absolute return strategies are extremely heterogeneous, as managers have both greater variability within a strategy and the flexibility to evolve across styles and asset classes. This is a key benefit of absolute return; however, it also makes strategy classifications less meaningful and manager selection significantly more important. It also necessitates relatively broader allowable strategy ranges than in other more traditional asset classes.

The list of strategies that the KRS Absolute Return Portfolio may utilize includes, but is not limited to:

- **Equity Strategies:** Equity-based hedge funds are those which primarily purchase listed stocks, long and short, using no to substantial leverage. These strategies may differ across multiple styles such as broad or sector based mandates, geographically focused or global, concentrated versus diversified, long biased or market neutral, or short term trading versus longer term fundamental. Sub-strategies in this category would include fundamental long/short equity, short bias, tactical trading, and equity market neutral.
- **Event Driven:** Event-driven strategies also invest in the securities of corporate issuers, including stocks and corporate bonds. However, these strategies will invest based upon specific corporate actions that will change the value of these securities including mergers, spin-offs, tender and exchange offers and bankruptcy or restructuring. These strategies can be flexible across equity/credit, long/short as well as other style characteristics noted earlier. Another critical differentiator among event driven strategies is whether they pursue primarily hard versus soft catalysts. Examples of sub-strategies in this category include merger arbitrage, shareholder activism, multi-strategy event, special situations, and opportunistic value/soft catalyst.
- **Credit Strategies:** Credit strategies are those which focus on the debt side of the capital structure. They may have equity exposure, but the vast majority of the portfolio is invested in credit securities. Similarly, these strategies may be long biased or more hedged, may be more fundamentally based or more quantitative, focus on paying versus non-performing, and shorter term trading versus longer term focused. However, some funds may be focused on structured credit markets, including RMBS and CMBS, and others may move opportunistically across various credit segments. Sub-strategies may include long/short corporate credit, structured credit, and distressed securities.
- **Relative Value:** Relative Value strategies are those that do not invest in the intrinsic value of any individual security, but rather research the historical and/or mechanical

relationships between related securities and invest in the spread. For example, they may bet on one bond being overvalued relative to another bond from the same issuer. These strategies are almost always market neutral, but may vary from moderately to highly leveraged, concentrated versus diversified, or from HFT (high frequency trading) to a longer term investment horizon. Examples of sub-strategies in this category include fixed income arbitrage, convertible arbitrage, and statistical arbitrage.

- **Multi-Strategies:** Multi-Strategy hedge funds are those which will actively employ several of the other major hedge fund categories. Typically, hedge funds may do more than one thing, but to be a true multi-strategy, a hedge fund must have meaningful allocations of capital to at least 3 of the other four major categories: equity, credit/event, relative value, and macro/CTA. A true multi-strategy hedge fund should not have 50% to 70% of NAV invested in one strategy or 50% to 70% of the historical return attribution from one strategy. Finally, most multi-strategy hedge funds have their roots in one specific style and have evolved into multi-strategies over time.
- **Global Macro:** Macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. Global macro funds are typically diversified across 3 of the 4 major liquid markets: equity indices, credit/debt, currencies/rates, and commodities. These strategies are often quantitative or discretionary, or shorter term/market timing versus longer term/macroeconomic focused. Finally, some traders may focus largely on certain markets, such as rates or currencies, trading on fundamental economic signals.
- **CTA/Commodity/Currency:** Managed Futures or CTAs will trade the same markets as global macro funds (i.e. equity indices, debt markets, currencies, and commodities) but will focus heavily on price or other technical signals, instead of fundamental or economic data. CTAs tend to be purely systematic (black-box) or discretionary, shorter to longer term and will employ either trend following/momentum strategies or counter-trend/ mean reversion. Similar to macro funds, some CTAs focus purely on certain markets, such as commodities or currencies.
- **Other:** Strategies in this category, sometimes referred to as alternatives to alternatives, tend to be the most highly uncorrelated strategies. These may not be true “alpha” generators, as they often are simply accessing extremely unique and non-competitive markets, looking to harvest systemic risk premia found in these markets. However, the “betas” they are accessing are truly idiosyncratic. These strategies are much smaller and tend to have a bit higher illiquidity than other hedge funds. Examples of sub-strategies that fall in this category would be intellectual property, weather risk, and insurance strategies.

The Absolute Return allocation shall seek to achieve the following.

- 1) Short-term benchmark: For periods less than five years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (HFRI Diversified Fund of Fund Composite), net of all investment management fees, with similar risk relative to the benchmark.
- 2) Strategic benchmark: For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds the appropriate long-term benchmark (1 Year Treasury Bill Rate + 500 basis points) as well.

Portfolio Guidelines

No more than 10% of the total net assets of the Absolute Return portfolio may be invested in any one single manager hedge fund. No more than 15% of the total net assets of the Absolute Return portfolio may be invested in any one single separately managed account, mutual fund, or other registered investment vehicle.

No more than 15% of the total net assets of the Absolute Return portfolio allocation may be invested with any one single hedge fund manager strategy (excluding Funds of Funds). No more than 25% of the net assets of the Absolute Return portfolio allocation may be invested with any one single investment manager (excluding Funds of Funds).

As the Absolute Return allocation can invest in various investment vehicles and strategies with differing liquidity profiles, it is important to consider liquidity as a separate risk spectrum. In order to manage the portfolio and provide the system liquidity as necessary, but remain flexible enough to capture returns available in moderately illiquid opportunities, the Absolute Return allocation will adhere to the following liquidity targets:

At all times, at least 25.0% of the Absolute Return portfolio as a whole is to be available in quarterly or better liquidity vehicles.

At all times, no more than 50.0% of the Absolute Return portfolio as a whole is to be committed to vehicles that provide liquidity on a greater than annual basis.

No investments to vehicles with a greater than 5 year lock-up are permitted in the Absolute Return portfolio.

IX. Standards of Measurement

Performance Measurement

The Kentucky Retirement Systems (“KRS”) overall fund performance is measured relative to the KRS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with industry-wide standards and the practices utilized by the CFA Institute. It is the product of the various component weights (i.e., asset classes’ percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes’ weights (percentages) are often not equivalent to the benchmark’s weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

KRS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indexes that are recognized and published (e.g., S&P 500 & Barclays Aggregate Bond Index). These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to KRS and the investment manager/advisor as the neutral position consistent with the underlying investor status. KRS’ investment consultant and staff recommend the benchmarks and indexes. These measures shall be subject to the annual review and approval of the KRS Investment Committee and ratification of the Kentucky Retirement Systems’ Board of Trustees.

The KRS Total Fund Benchmarks and sub-components, indexes, are described in Appendix A and B of this document. The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of the Kentucky Retirement Systems. They are to be computed and expressed on a time-weighted total return basis:

Total Public Asset Class Allocations

Short-term

- For periods less than five years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than five years or one market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

Individual Public Security Portfolios: Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than five years or one market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

In addition to exceeding the appropriate benchmark listed in Appendix A and B, the Alternative portfolio should also seek to achieve the following:

Short-term

- Alternative investments should earn a Net IRR that place the investment above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds the KRS Private Equity Index. Individual private equity investments should earn a Net IRR above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Real Estate

The Total Real Estate allocation of the fund shall be benchmarked to the appropriate benchmark and are listed in Appendix A and B.

Real Return

The total Real Return allocation shall seek to :

- (1) Achieve a rate of return that exceeds the appropriate benchmark annually over a complete market cycle (historically 3-5 years), net of all investment management fees.
- (2) Achieve a rate of return that exceeds the appropriate real return composite index over a complete market cycle (historically 3-5 years), net of all investment management fees.
- (3) Achieve a positive risk/reward trade-off when compared to similar style real return Investment Managers.

Absolute Returns

The total Absolute Return allocation shall seek to :

- (1) Achieve a rate of return that exceeds the appropriate benchmark annually over a complete market cycle (historically 3-5 years), net of all investment management fees.

- (2) Achieve a positive risk/reward trade-off when compared to similar style FOF return Investment Managers.

X. Investments Performance Review Procedures

On a timely basis, but not less than quarterly, the Investment Committee, on behalf of the Board of Trustees, will review the performance of the portfolio for determination of compliance with this Statement of Investment Policy. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the staff and presented to the Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer shall perform tests at least monthly to assure compliance with the restrictions imposed by this policy. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The Investment Committee shall report the findings to the Board of Trustees at the next regularly scheduled meeting.

The following restrictions shall be tested at least monthly:

- ▶ The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of the Systems' assets.
- ▶ The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.
- ▶ Investment in "frontier" markets (those countries not included in the MSCI EM Index) shall not exceed 5% of the System's international equity assets.
- ▶ The duration of the core and global fixed income portfolios combined shall not vary from that of the KRS Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration.
- ▶ The duration of the TIPS portfolio shall not deviate from the KRS TIPS benchmark by more than 10%.
- ▶ The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of the Systems' fixed income assets, with the exception of U.S. Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.
- ▶ 50% of the fixed income assets must have liquidity that is trade date plus three days or better.

The Chief Investment Officer shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

XI. Additional Items

The KRS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance of the Fund over a long time horizon. The Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The Board has adopted the ISS U.S. Proxy Voting Guidelines as the System's approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS and hereby incorporated by this reference. The policy can be found publically using the following link:

<http://www.issgovernance.com/files/2012USSummaryGuidelines1312012.pdf>

- A. Investment Procurement Policy Dated July 2017 is hereby incorporated by reference.
- B. Investment Brokerage Policy dated May 2011 is hereby incorporated by reference.
- C. Transactions Procedures Policy dated November 2014 is hereby incorporated by reference.
- D. Securities Litigation Policy and Procedures dated May 2011 is hereby incorporated by reference.
- E. Investment Securities Lending Guidelines dated May 2011 is hereby incorporated by reference.
- F. Securities Trading Policy for Trustees and Employees dated February 2015 is hereby incorporated by reference.
- G. Manager and Placement Agent Statement of Disclosure Policy dated August 2012 is hereby incorporated by reference.

Signatories

As Adopted by the Investment Committee

Date: _____

Signature: _____

Mr. David L. Harris

Chair, Investment Committee

As Adopted by the Board of
Trustees

Date: _____

Signature: _____

Mr. John R. Farris

Chair, Board of Trustees

KENTUCKY RETIREMENT SYSTEMS

Board Meeting Public Participation Policy

The Kentucky Retirement Systems (KRS) Board of Directors has adopted the following policies regarding public participation at meetings of the KRS Board:

1. Public comments may be allowed at meetings of the KRS Board of Directors. Public comments will not be accepted at KRS Board committee meetings.
2. The Board shall only accept comments regarding items that are included on the meeting agenda.
3. Public comments will only be accepted during the portion of the meeting set aside for public comments. The portion of the meeting set aside for public comments, if any, will be noted on the agenda of each meeting.
4. The Board shall allot no more than a total of thirty (30) minutes for public comments at any regular or special meeting. **No individual presentation shall exceed three (3) minutes.** The Board Chair shall have the authority to limit or extend the amount of time for public or individual comments set forth in this section, unless determined by a majority vote of the full Board. Statements shall be timed by the Board Chair or designee and time limits will be strictly enforced.
5. A person who desires to speak to the Board shall register at the Board meeting room on the day of the meeting. Registration sheets shall customarily be available at least thirty (30) minutes prior to the scheduled start of the Board meeting, and registration shall close five (5) minutes before the scheduled start of the meeting. Required registration information shall include the name and address of the person providing the comments, the name of the organization (if any) the person represents, the topic(s) to be discussed, and, if the person is a pension system member, the name of the pension system in which the person participates.
6. **Public comments are subject to the following rules:**
 - a. **A person who has registered to speak shall, at the appropriate time, be acknowledged by the Board Chair. The person shall state his/her first and last name before speaking and state the topic to be addressed.**
 - b. **Written comments may be submitted to the Board Chair by a speaker and copies shall be distributed to the full Board following the meeting.**
 - c. **No person may speak more than once on the same topic.**
 - d. **Comments shall be directed to the Board, not to individual Board members. Questions to the Board or individual board members will not be entertained.**
 - e. **Statements shall not be abusive or argumentative. No profane or vulgar language will be tolerated.**
7. The Board chair shall enforce these rules and may, subject to appeal to the full Board, take actions necessary to maintain order at the Board meeting. Such actions may include, but are not limited to:
 - a. interrupting a person making a statement, if the statement is too lengthy, unduly repetitive or otherwise violates these rules; and
 - b. limiting the total amount of time devoted to public statements based on the number of persons wishing to make statements and the length of the Board's agenda.