



KENTUCKY RETIREMENT SYSTEMS

David L. Eager, Interim Executive Director

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March 29, 2018

Ms. Katie Carney
Office of Fiscal Statement Review
Legislative Research Commission
Capitol Annex, Room 104

Frankfort, KY 40601

**RE: Senate Bill 151 PHS (2018 RS BR 1644)
AA Statement Required by KRS 6.350**

Dear Ms. Carney:

Kentucky Retirement Systems' (KRS) actuary, GRS Retirement Consulting, has reviewed Senate Bill 151 PHS (2018 RS BR 1644). They state the following:

"We have reviewed the proposed legislation in SB 151 and have determined that the proposed changes that apply to retirement systems maintained by KRS will have the same fiscal impact as that determined for SB 1 Sub 1."

Therefore, the Actuarial Analysis of Senate Bill 1 Sub 1, dated March 6, 2018, is applicable to Senate Bill 151 PHS (2018 RS BR 1644).

Please let me know if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "David Eager".

David L. Eager
Interim Executive Director
Kentucky Retirement Systems

March 6, 2018

Mr. David Eager
Interim Executive Director
Kentucky Retirement Systems
1260 Louisville Road
Frankfort, KY 40601

Re: Actuarial Analysis of Proposed Pension Reform Legislation SB 1 Sub 1 and its Financial Impact on the KERS Hazardous, CERS Hazardous, and SPRS Retirement Systems

Dear Mr. Eager:

We have reviewed and analyzed the proposed changes in the proposed pension reform legislation SB 1 Sub 1. The purpose of this letter is to communicate the fiscal analysis of this proposed legislation on the retirement and insurance funds maintained by the Kentucky Retirement System (KRS) as it applies to the Hazardous Systems (i.e. KERS Hazardous, CERS Hazardous, and SPRS).

The provisions of this legislation are similar to that proposed in SB 1, with a notable difference of resetting the amortization period for financing the unfunded actuarial accrued to a closed 30 year period beginning with the July 1, 2019 actuarial valuation. Also, compared to the original SB 1, this proposed legislation, SB 1 Sub 1, the employee contribution requirement for the Health Insurance funds for active Tier I members who became participating on or after July 1, 2003 (but prior to September 1, 2008) is 1% of pay.

Provisions of Proposed Legislation

Exhibit 1 provides a summary of the principle provisions in the pension reform bill that have a fiscal impact on the retirement system. In summary, the current Tier 3 Hybrid Plan Benefit will continue to be provided to future members. The amortization of the unfunded actuarial accrued liability will be determined on a level-dollar basis beginning with the 2019 actuarial valuation and the funding period will reset to a closed 30-year period. Finally, active Tier I members who became participants on or after July 1, 2003 (but prior to September 1, 2008) will contribute 1% of pay.

Summary of Cost Impact

Section 1 includes exhibits that show a comparison of the fiscal impact of the proposed legislation to the current plan over the next 35 years. Specifically, these exhibits show the projected impact on the: (1) unfunded actuarial accrued liability, (2) funded ratio, (3) total employer contribution dollars, and (4) projected composite employer contribution rates, for each of the funds (retirement and health insurance). Section 2 provides additional detail regarding each projection under the current plan and Section 3 provides similar information under the proposed legislation. Below are comments regarding the cost projection for each fund.

Mr. David Eager

March 6, 2018

Page 2

KERS Hazardous and SPRS Retirement and Insurance Funds

The change in the benefit provisions had a minimal impact on the projected actuarial accrued liability for both retirement and health insurance funds.

The initial savings in the projected employer contributions for the retirement and insurance funds is due to resetting the amortization period to 30 years for the 2019 actuarial valuation. However, these initial savings is offset by the fact that the participating employers will be financing the unfunded actuarial accrued liability an additional six years (i.e. to the year 2043 in the current plan versus the year 2049 in SB 1 Sub 1).

There is also some employer savings in the insurance fund due to the increase in the member contribution requirement for certain Tier 1 members.

CERS Hazardous Retirement and Insurance Funds

Similar to the KERS hazardous and SPRS retirement funds, there is minimal change in the projected actuarial accrued liability due to the provision changes.

The contribution rate for FY 20/21 for the retirement fund is slightly higher in the proposed legislation because the increase due to using a level dollar amortization is greater than the saving due to resetting the amortization period to 30 years for the 2019 actuarial valuation. However, the proposed method results in savings beginning in July 1, 2025 through June 30, 2043 because of the use of a level dollar amortization and the longer amortization period. However, the participating employers will be financing the unfunded actuarial accrued liability an additional six years (i.e. to the year 2049 in SB 1 Sub versus 2043 in the current plan).

The fiscal impact to the projected cost of the CERS health insurance fund is similar as the retirement fund, but of a different magnitude and different cross-over years. There is also initial savings for the employers for the insurance fund is due to the increase in the Tier I member contribution requirement.

GRS Comments on Proposed Legislation

Allocation of Amortization Payment to Participating Employers in CERS, and Agencies Participating in KERS, and SPRS

The employers' (and agencies) allocation percentage will be based on the average covered payroll during the last three fiscal years (FY 14/15, FY 15/16, and FY 16/17) to the average total covered payroll for the system. This allocation percentage would remain unchanged in future years (albeit, minor adjustments if employers cease participating in the system). There are some favorable characteristics with this method as each employer's contribution effort to finance the unfunded actuarial accrued liability will remain relatively constant and eliminates incentives for employers to pursue the use of "contract" employees to reduce their covered payroll (and required contribution). Employers that are increasing in size will not be burdened to pay a greater share of the unfunded

Mr. David Eager

March 6, 2018

Page 3

actuarial accrued liability on the covered payroll for those additional employees. Rather, the marginal change in the employer's pension contribution effort will be the normal cost rate on the change in covered payroll.

We have not analyzed the change in covered payroll for the participating employers in the systems or how the average of the fiscal years identified in the proposed legislation compare to the distribution of covered payroll among employers in other years, such as the 12/13 and 13/14 fiscal years. Given the declining covered payroll experienced by some of the systems over the last several years, it is possible that using a 5-year average period or the currently proposed 3-year averaging period using different fiscal years may be more representative of the allocated share of each employer's share of the unfunded actuarial accrued liability. There will not be a fiscal impact to the system if the averaging method is changed, but there would be a cost increase or decrease for individual participating employers. We recommend the Legislative Research Commission seek input from Kentucky Retirement Systems regarding the fiscal years and the averaging period used in the calculation.

Further to this point, using a static allocation may gradually drift from mirroring the employer participation demographics in future years (some employers are growing and other entities are decreasing their workforce). Also, while this proposed method may be appropriate for allocating the existing unfunded liability, it may not be appropriate for allocating unfunded liabilities that may be incurred in a future year. Note, if this issue does occur, then it could be easily addressed by the General Assembly in a future year by using a layered amortization base.

Resetting the Amortization Period to a Closed 30 Years for the July 1, 2019 Actuarial Valuation

The recent change in assumptions did materially increase the contribution requirements beginning with the FY 18/19 fiscal year. Resetting the amortization period to a closed 30 years for the July 1, 2019 actuarial valuation will somewhat reduce those contribution requirements for the years 2020 through the year 2043. However, the participating employers will also be required to continue to finance the unfunded actuarial accrued liability an additional six years (i.e. to the year 2049).

Distribution of the Actuarial Accrued Liability among Membership Status

The proposed legislation would make certain changes to retirement and health insurance benefits to active members after July 1, 2018 as well as future active members in these Hazardous Retirement Systems. For educational and informational purposes, the actuarial accrued liability attributable to the current retirees and inactive members (vested and non-vested) in the KERS Hazardous Retirement System is approximately 66% of the total actuarial accrued liability (Similarly, the retiree and inactive member liability is approximately 63% and 80% of the total actuarial accrued liability for the CERS Hazardous Retirement System and SPRS Retirement System, respectively). As a result, while the proposed changes may have a material impact on the actuarial accrued liability attributable to the current active members in the Retirement System, the changes have a much smaller impact as a percentage of the total actuarial accrued liability attributable of the entire Retirement System.

Mr. David Eager

March 6, 2018

Page 4

Basis of Calculations

GRS based the calculations and analysis in this letter on the member and financial data provided by KRS and used to perform the actuarial valuation as of June 30, 2017. Except where noted otherwise, the projections assume no actuarial gains or losses will occur in the future, and that members will terminate, retire, become disabled, or die as predicted by the actuarial assumptions documented in the June 30, 2017 actuarial valuation report.

These projections also do not reflect the actual investment experience of the retirement system after the measurement date of June 30, 2017. The projections assume that the participating employers in each Retirement System will maintain the current workforce in each future year and that as current active members terminate or retire from a covered position in the Retirement System, the employer would replace them with a new employee.

Our calculations are based upon assumptions regarding future events, which may or may not materialize. Depending on actual plan experience, actual results could deviate significantly from our projections.

General Comments

We are not attorneys, and we cannot provide a legal opinion regarding the changes in this proposed legislation. Nothing in this letter should be construed as providing legal, investment or tax advice. It may be prudent to consult with the Retirement System's counsel before enacting any such changes. Finally, no statement in this letter is intended to be interpreted as a recommendation in favor of or in opposition to the changes studied herein.

Mr. David Eager

March 6, 2018

Page 5

Mr. White and Mr. Newton are Enrolled Actuaries. All the of the undersigned are also members of the American Academy of Actuaries and that we meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. In addition, all of the undersigned are experienced in performing valuations for large public retirement systems. If you have any questions, or require any additional or clarifying information, please do not hesitate to contact us.

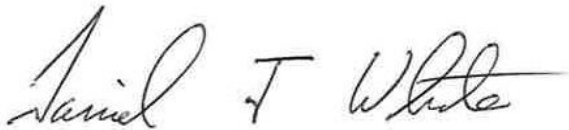
Sincerely,



Joseph P. Newton, FSA, MAAA, EA
Senior Consultant



Janie Shaw, ASA, MAAA
Consultant



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

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Enclosures

Exhibit 1. Summary of Proposed Changes

Section 1. Comparison of Fiscal Impact

Section 2. Projected Cost of the Retirement and Insurance – Current Plan

Section 3. Projected Cost of the Retirement and Insurance – Proposed Legislation

Exhibit 1. Summary of Changes in Benefit Provisions and Employer Funding for the KERS and CERS Hazardous Systems & SPRS

Retirement Formulas

Tier 1:

- No change to the basic formula.
- For retirements on or after January 1, 2019, the highest three years of pay used to determine the member's final average compensation must be complete fiscal years and must contain at least 36 months.

Tier 2:

- No change to the basic formula.

Tier 3:

- No change to the interest crediting formula.
- Removal of the \$5,000 post-retirement death benefit for all members hired on and after January 1, 2014.

Future Hires:

- Future employees will participate in the hybrid cash balance plan. Participants do not have an option to earn retirement benefits in the defined contribution plan

Member Contribution Rates

- Member contribution rates to the retirement fund for Tier 1, Tier 2, and Tier 3 members remain unchanged at 8% of pay. Contributions to the health insurance funds for Tier 1 members who began participation on or after July 1, 2003 (but prior to September 1, 2008) will increase to 1.00% of pay.
 - The contributions to the health insurance funds are classified as 401(h) contributions and are not refundable to the member.

Pension Anti-Spiking Provisions

Equipment and Other Expense Allowances:

- Excluded from creditable compensation earned on or after January 1, 2019.

Sick Leave

- Converted sick service cannot exceed amount for accumulated sick leave as of January 1, 2019.
- Tier 1 sick leave service credit does not count towards retirement eligibility for those retiring on or after January 1, 2019.

Exhibit 1. Summary of Changes in Benefit Provisions and Employer Funding for the KERS and CERS Hazardous Systems & SPRS (Continued)

Retiree Health Accessibility

- No change.

Line of Duty Death

- The surviving spouse (if any) shall supersede all previous beneficiary designations for members that die in the line of duty.

Reemployment After Retirement

The following reemployment after retirement provisions apply to members who retire on or after January 1, 2019 in order to continue to receive their retirement allowance during their reemployment with a participating employer in KERS, CERS, SPRS, or TRS:

- Must have a one (1) month break in employment and no prearranged reemployment agreement.
- After required employment break, the retired member can return to work in part-time or full-time position, but does not earn additional retirement benefit accruals.
 - Monthly pension will not be suspended for the duration of reemployment and the retiree will not earn additional retirement benefits.
- Employer required to make normal cost contributions (both pension and retiree health) on the payroll of the reemployed retiree.

Employer Funding

The Board will continue to have the authority to change the contribution rates for CERS on an annual basis and will have the authority to change contribution rates for KERS and SPRS on an annual basis after the fiscal year ending June 30, 2020.

Actuarially Determined Contributions (ADC) for actuarial valuations performed on and after June 30, 2019 are based on normal cost plus an amortization payment to finance the unfunded actuarial accrued liability:

- Normal cost determined using entry age normal cost method paid as a percentage of payroll.
- Unfunded liability payment determined in the January 1, 2019 actuarial valuation will be based on a closed 30-year amortization period.
- Allocation of amortization payment for the unfunded liability to participating employers in KERS, CERS, and SPRS is based on a level-dollar amortization
 - The dollar amount of the amortization payment will be allocated to each participating employer in proportion to their average percentage of the total compensation for years (FY 14/15, FY 15/16, and FY 16/17), adjusted for any employers who ceases participation in the System.
 - Each employer's proportionate share of the amortization payment will remain a relatively constant percentage each future year.

Section 1.
Comparison of Fiscal Impact
Current Plan vs. Proposed Changes

Kentucky Retirement Systems
Exhibit 1-1
KERS Hazardous Retirement Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1,	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2017	\$ 514	\$ 514	\$ -	54%	54%	0%	\$ 35	\$ 35	\$ -	21.4%	21.4%	0.0%
2018	518	518	-	55%	55%	0%	57	57	-	34.4%	34.4%	0.0%
2019	517	517	-	56%	56%	0%	58	58	-	34.4%	34.4%	0.0%
2020	508	508	-	58%	58%	0%	57	52	(5)	32.6%	29.8%	-2.8%
2021	490	495	5	61%	60%	-1%	58	52	(6)	32.6%	29.0%	-3.6%
2022	475	487	12	63%	62%	-1%	55	51	(4)	30.2%	27.8%	-2.4%
2023	464	480	16	64%	63%	-1%	57	51	(6)	30.2%	27.0%	-3.3%
2024	449	473	24	66%	64%	-2%	55	50	(5)	28.3%	26.2%	-2.2%
2025	435	464	29	68%	66%	-2%	56	50	(6)	28.3%	25.4%	-2.9%
2026	419	456	37	70%	67%	-3%	53	50	(3)	26.5%	24.7%	-1.8%
2027	403	447	44	71%	68%	-3%	55	49	(6)	26.5%	23.9%	-2.5%
2028	386	438	52	73%	69%	-4%	52	49	(3)	24.7%	23.2%	-1.6%
2029	369	427	58	75%	71%	-4%	53	49	(4)	24.7%	22.4%	-2.3%
2030	350	416	66	76%	72%	-4%	51	48	(3)	23.2%	21.8%	-1.4%
2031	331	405	74	78%	73%	-5%	53	48	(5)	23.2%	21.2%	-2.0%
2032	310	393	83	80%	74%	-6%	51	49	(2)	21.8%	20.6%	-1.2%
2033	289	380	91	81%	75%	-6%	53	49	(4)	21.8%	20.1%	-1.7%
2034	266	367	101	83%	77%	-6%	51	49	(2)	20.5%	19.6%	-0.9%
2035	243	352	109	85%	78%	-7%	52	49	(3)	20.5%	19.1%	-1.3%
2036	217	337	120	87%	79%	-8%	51	49	(2)	19.3%	18.7%	-0.6%
2037	192	321	129	88%	81%	-7%	52	49	(3)	19.3%	18.3%	-1.0%
2038	163	303	140	90%	82%	-8%	50	49	(1)	18.2%	17.8%	-0.3%
2039	134	284	150	92%	84%	-8%	51	49	(2)	18.2%	17.4%	-0.7%
2040	103	264	161	94%	85%	-9%	49	49	-	17.2%	17.1%	0.0%
2041	72	242	170	96%	86%	-10%	50	49	(1)	17.2%	16.9%	-0.3%
2042	37	220	183	98%	88%	-10%	49	50	1	16.6%	16.6%	0.1%
2043	-	195	195	100%	89%	-11%	13	50	37	4.1%	16.5%	12.4%
2044	-	169	169	100%	91%	-9%	13	51	38	4.1%	16.3%	12.2%
2045	-	141	141	100%	93%	-7%	13	51	38	4.1%	16.2%	12.1%
2046	-	110	110	100%	94%	-6%	13	52	39	4.1%	16.1%	12.0%
2047	-	78	78	100%	96%	-4%	14	53	39	4.1%	16.1%	12.0%
2048	-	42	42	100%	98%	-2%	14	55	41	4.1%	16.3%	12.2%
2049	-	-	-	100%	100%	0%	14	14	-	4.1%	4.1%	0.0%
2050	-	-	-	100%	100%	0%	15	15	-	4.1%	4.1%	0.0%
2051	-	-	-	100%	100%	0%	15	15	-	4.1%	4.1%	0.0%

Kentucky Retirement Systems
Exhibit 1-2
CERS Hazardous Retirement Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1, (1)	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current (2)	Proposed (3)	Difference (4)	Current (5)	Proposed (6)	Difference (7)	Current (8)	Proposed (9)	Difference (10)	Current (11)	Proposed (12)	Difference (13)
2017	\$ 2,411	\$ 2,411	\$ -	48%	48%	0%	\$ 120	\$ 120	\$ -	22.2%	22.2%	0.0%
2018	2,478	2,478	-	48%	48%	0%	192	192	-	35.7%	35.7%	0.0%
2019	2,504	2,504	-	49%	49%	0%	193	193	-	36.0%	36.0%	0.0%
2020	2,500	2,500	-	50%	50%	0%	197	213	16	36.4%	39.4%	3.0%
2021	2,456	2,440	(16)	52%	52%	0%	199	211	12	36.5%	38.7%	2.3%
2022	2,433	2,401	(32)	53%	53%	0%	199	207	8	36.1%	37.6%	1.5%
2023	2,405	2,363	(42)	54%	55%	1%	201	205	4	36.0%	36.7%	0.8%
2024	2,372	2,323	(49)	55%	56%	1%	202	203	1	35.8%	35.9%	0.1%
2025	2,333	2,281	(52)	56%	57%	1%	204	201	(3)	35.7%	35.1%	-0.6%
2026	2,288	2,236	(52)	57%	58%	1%	207	199	(8)	35.5%	34.2%	-1.3%
2027	2,236	2,189	(47)	59%	59%	0%	209	198	(11)	35.3%	33.4%	-1.9%
2028	2,178	2,139	(39)	60%	61%	1%	212	196	(16)	35.1%	32.6%	-2.6%
2029	2,111	2,087	(24)	61%	62%	1%	215	195	(20)	35.0%	31.7%	-3.3%
2030	2,037	2,031	(6)	63%	63%	0%	218	194	(24)	34.8%	30.9%	-3.9%
2031	1,954	1,972	18	64%	64%	0%	222	193	(29)	34.5%	30.1%	-4.4%
2032	1,861	1,911	50	66%	65%	-1%	225	193	(32)	34.3%	29.3%	-5.0%
2033	1,759	1,845	86	68%	66%	-2%	229	192	(37)	34.1%	28.6%	-5.5%
2034	1,646	1,776	130	70%	68%	-2%	233	192	(41)	33.9%	27.9%	-6.0%
2035	1,522	1,702	180	72%	69%	-3%	238	192	(46)	33.7%	27.3%	-6.5%
2036	1,385	1,623	238	75%	70%	-5%	242	192	(50)	33.6%	26.6%	-7.0%
2037	1,235	1,540	305	78%	72%	-6%	247	192	(55)	33.4%	26.0%	-7.4%
2038	1,071	1,451	380	81%	74%	-7%	251	192	(59)	33.3%	25.4%	-7.8%
2039	892	1,357	465	84%	75%	-9%	256	192	(64)	33.1%	24.9%	-8.3%
2040	697	1,256	559	87%	77%	-10%	261	192	(69)	33.0%	24.3%	-8.7%
2041	484	1,150	666	91%	79%	-12%	267	193	(74)	32.9%	23.8%	-9.1%
2042	254	1,037	783	95%	81%	-14%	272	193	(79)	32.9%	23.3%	-9.6%
2043	-	915	915	100%	84%	-16%	12	194	182	1.4%	22.8%	21.4%
2044	-	787	787	100%	86%	-14%	12	194	182	1.4%	22.4%	21.0%
2045	-	650	650	100%	88%	-12%	12	195	183	1.4%	22.0%	20.6%
2046	-	504	504	100%	91%	-9%	13	196	183	1.4%	21.6%	20.2%
2047	-	348	348	100%	94%	-6%	13	197	184	1.4%	21.2%	19.8%
2048	-	182	182	100%	97%	-3%	13	199	186	1.4%	21.0%	19.6%
2049	-	-	-	100%	100%	0%	14	14	-	1.4%	1.4%	0.0%
2050	-	-	-	100%	100%	0%	14	14	-	1.4%	1.4%	0.0%
2051	-	-	-	100%	100%	0%	14	14	-	1.4%	1.4%	0.0%

Kentucky Retirement Systems
Exhibit 1-3
SPRS Retirement Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1, (1)	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current (2)	Proposed (3)	Difference (4)	Current (5)	Proposed (6)	Difference (7)	Current (8)	Proposed (9)	Difference (10)	Current (11)	Proposed (12)	Difference (13)
2017	\$ 706	\$ 706	\$ -	27%	27%	0%	\$ 35	\$ 35	\$ -	72.5%	72.5%	0.0%
2018	706	706	-	27%	27%	0%	58	58	-	119.1%	119.0%	0.0%
2019	697	697	-	28%	28%	0%	59	59	-	119.1%	119.0%	0.0%
2020	682	682	-	30%	30%	0%	58	52	(6)	116.2%	104.4%	-11.8%
2021	664	670	6	32%	31%	-1%	59	52	(7)	116.2%	102.5%	-13.8%
2022	645	658	13	34%	32%	-2%	58	52	(6)	111.5%	100.0%	-11.5%
2023	626	646	20	35%	33%	-2%	59	52	(7)	111.5%	97.8%	-13.7%
2024	606	635	29	37%	34%	-3%	57	51	(6)	106.3%	95.6%	-10.7%
2025	586	622	36	39%	35%	-4%	58	51	(7)	106.3%	93.5%	-12.9%
2026	563	608	45	41%	36%	-5%	56	51	(5)	101.1%	91.0%	-10.1%
2027	541	594	53	43%	37%	-6%	58	51	(7)	101.1%	88.4%	-12.7%
2028	515	579	64	45%	38%	-7%	56	50	(6)	95.2%	85.9%	-9.3%
2029	490	563	73	47%	39%	-8%	57	50	(7)	95.2%	83.5%	-11.7%
2030	463	547	84	50%	41%	-9%	55	50	(5)	89.4%	81.1%	-8.3%
2031	437	530	93	52%	42%	-10%	57	50	(7)	89.4%	78.8%	-10.6%
2032	406	512	106	55%	43%	-12%	55	50	(5)	83.5%	76.7%	-6.9%
2033	378	492	114	58%	45%	-13%	56	50	(6)	83.5%	74.5%	-9.1%
2034	344	472	128	61%	47%	-14%	54	50	(4)	78.2%	72.5%	-5.8%
2035	313	451	138	64%	49%	-15%	55	50	(5)	78.2%	70.7%	-7.6%
2036	277	429	152	68%	51%	-17%	53	50	(3)	73.3%	68.9%	-4.4%
2037	243	405	162	72%	53%	-19%	55	50	(5)	73.3%	67.2%	-6.1%
2038	205	381	176	76%	56%	-20%	52	50	(2)	68.6%	65.7%	-3.0%
2039	168	354	186	80%	58%	-22%	54	50	(4)	68.6%	64.1%	-4.6%
2040	126	327	201	85%	61%	-24%	51	50	(1)	64.0%	62.8%	-1.2%
2041	86	298	212	90%	64%	-26%	52	50	(2)	64.0%	61.5%	-2.5%
2042	42	268	226	95%	68%	-27%	49	51	2	58.3%	60.2%	1.9%
2043	-	236	236	100%	71%	-29%	5	51	46	5.9%	59.0%	53.1%
2044	-	202	202	100%	75%	-25%	5	51	46	5.9%	57.9%	52.1%
2045	-	166	166	100%	80%	-20%	5	51	46	5.9%	56.9%	51.1%
2046	-	128	128	100%	84%	-16%	5	51	46	5.8%	56.0%	50.2%
2047	-	89	89	100%	89%	-11%	5	52	47	5.8%	55.2%	49.4%
2048	-	46	46	100%	94%	-6%	6	52	46	5.8%	54.8%	49.0%
2049	-	-	-	100%	100%	0%	6	6	-	5.8%	5.8%	0.0%
2050	-	-	-	100%	100%	0%	6	6	-	5.8%	5.8%	0.0%
2051	-	-	-	100%	100%	0%	6	6	-	5.8%	5.8%	0.0%

Kentucky Retirement Systems
Exhibit 1-4
KERS Hazardous Insurance Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1,	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2017	\$ (74)	\$ (74)	\$ -	118%	118%	0%	\$ 4	\$ 4	\$ -	2.3%	2.3%	0.0%
2018	(71)	(71)	-	116%	116%	0%	4	4	-	2.5%	2.5%	0.0%
2019	(63)	(63)	-	114%	114%	0%	4	4	-	2.5%	2.5%	0.0%
2020	(61)	(62)	(1)	113%	113%	0%	4	4	-	2.1%	2.3%	0.2%
2021	(66)	(67)	(1)	114%	114%	0%	4	3	(1)	2.1%	1.7%	-0.4%
2022	(65)	(67)	(2)	113%	114%	1%	2	2	-	1.2%	1.1%	-0.1%
2023	(64)	(66)	(2)	113%	113%	0%	2	2	-	1.2%	1.1%	-0.1%
2024	(62)	(65)	(3)	112%	113%	1%	1	2	1	0.7%	1.0%	0.4%
2025	(61)	(64)	(3)	112%	112%	0%	1	1	-	0.7%	0.5%	-0.1%
2026	(60)	(64)	(4)	111%	112%	1%	1	1	-	0.4%	0.5%	0.2%
2027	(57)	(62)	(5)	111%	112%	1%	1	1	-	0.4%	0.5%	0.1%
2028	(55)	(60)	(5)	110%	111%	1%	-	1	1	0.1%	0.5%	0.3%
2029	(53)	(59)	(6)	110%	111%	1%	-	1	1	0.1%	0.5%	0.3%
2030	(50)	(57)	(7)	109%	111%	2%	-	1	1	0.1%	0.5%	0.4%
2031	(47)	(55)	(8)	109%	110%	1%	-	1	1	0.1%	0.4%	0.4%
2032	(44)	(53)	(9)	108%	110%	2%	-	1	1	0.2%	0.4%	0.3%
2033	(40)	(51)	(11)	107%	109%	2%	-	1	1	0.2%	0.4%	0.3%
2034	(37)	(49)	(12)	107%	109%	2%	1	1	-	0.3%	0.4%	0.2%
2035	(33)	(47)	(14)	106%	108%	2%	1	1	-	0.3%	0.4%	0.1%
2036	(29)	(44)	(15)	105%	108%	3%	1	1	-	0.4%	0.4%	0.0%
2037	(25)	(42)	(17)	104%	107%	3%	1	1	-	0.4%	0.4%	0.0%
2038	(21)	(39)	(18)	104%	107%	3%	1	2	1	0.5%	0.7%	0.2%
2039	(17)	(36)	(19)	103%	106%	3%	1	2	1	0.5%	0.7%	0.2%
2040	(12)	(33)	(21)	102%	106%	4%	2	2	-	0.6%	0.7%	0.1%
2041	(8)	(30)	(22)	101%	105%	4%	2	2	-	0.6%	0.7%	0.1%
2042	(4)	(27)	(23)	101%	104%	3%	3	2	(1)	0.9%	0.7%	-0.2%
2043	-	(23)	(23)	100%	104%	4%	7	2	(5)	2.1%	0.7%	-1.5%
2044	-	(19)	(19)	100%	103%	3%	7	2	(5)	2.1%	0.6%	-1.5%
2045	-	(15)	(15)	100%	102%	2%	7	2	(5)	2.1%	0.6%	-1.4%
2046	-	(12)	(12)	100%	102%	2%	7	2	(5)	2.1%	0.6%	-1.4%
2047	-	(8)	(8)	100%	101%	1%	7	2	(5)	2.0%	0.6%	-1.4%
2048	-	(3)	(3)	100%	100%	0%	7	3	(4)	2.0%	0.9%	-1.1%
2049	-	-	-	100%	100%	0%	7	7	-	2.0%	2.0%	0.0%
2050	-	-	-	100%	100%	0%	7	7	-	2.0%	2.0%	0.0%
2051	-	-	-	100%	100%	0%	7	7	-	1.9%	1.9%	0.0%

Kentucky Retirement Systems
Exhibit 1-5
CERS Hazardous Insurance Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1, (1)	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current (2)	Proposed (3)	Difference (4)	Current (5)	Proposed (6)	Difference (7)	Current (8)	Proposed (9)	Difference (10)	Current (11)	Proposed (12)	Difference (13)
2017	\$ 591	\$ 591	\$ -	67%	67%	0%	\$ 51	\$ 51	\$ -	9.4%	9.4%	0.0%
2018	610	610	-	67%	67%	0%	65	65	-	12.2%	12.2%	0.0%
2019	622	620	(2)	67%	68%	1%	64	63	(1)	12.0%	11.7%	-0.3%
2020	619	618	(1)	68%	69%	1%	64	67	3	11.8%	12.4%	0.5%
2021	600	594	(6)	70%	70%	0%	63	65	2	11.5%	11.9%	0.4%
2022	592	583	(9)	71%	71%	0%	61	61	-	11.0%	11.1%	0.1%
2023	583	572	(11)	72%	72%	0%	59	59	-	10.7%	10.6%	-0.1%
2024	574	561	(13)	72%	73%	1%	59	58	(1)	10.4%	10.3%	-0.1%
2025	564	550	(14)	73%	74%	1%	58	56	(2)	10.1%	9.8%	-0.4%
2026	552	539	(13)	73%	74%	1%	58	55	(3)	9.9%	9.5%	-0.4%
2027	540	527	(13)	74%	75%	1%	57	54	(3)	9.7%	9.1%	-0.6%
2028	525	515	(10)	74%	75%	1%	58	53	(5)	9.6%	8.8%	-0.8%
2029	509	502	(7)	75%	75%	0%	58	53	(5)	9.4%	8.6%	-0.8%
2030	491	489	(2)	76%	76%	0%	59	52	(7)	9.3%	8.3%	-1.0%
2031	471	475	4	76%	76%	0%	59	52	(7)	9.2%	8.1%	-1.1%
2032	448	459	11	77%	77%	0%	60	52	(8)	9.2%	7.9%	-1.2%
2033	424	444	20	78%	77%	-1%	61	52	(9)	9.1%	7.7%	-1.4%
2034	397	427	30	79%	78%	-1%	62	52	(10)	9.0%	7.6%	-1.5%
2035	367	410	43	80%	78%	-2%	63	52	(11)	9.0%	7.4%	-1.6%
2036	334	391	57	82%	79%	-3%	64	52	(12)	8.9%	7.2%	-1.7%
2037	298	371	73	84%	80%	-4%	66	52	(14)	8.9%	7.1%	-1.8%
2038	259	350	91	86%	81%	-5%	67	52	(15)	8.9%	6.9%	-2.0%
2039	216	327	111	88%	82%	-6%	68	53	(15)	8.8%	6.9%	-2.0%
2040	168	303	135	91%	83%	-8%	69	53	(16)	8.8%	6.7%	-2.1%
2041	118	278	160	93%	84%	-9%	71	53	(18)	8.8%	6.6%	-2.2%
2042	62	251	189	97%	86%	-11%	72	53	(19)	8.8%	6.4%	-2.4%
2043	-	221	221	100%	88%	-12%	10	53	43	1.1%	6.3%	5.1%
2044	-	191	191	100%	89%	-11%	10	53	43	1.1%	6.1%	5.0%
2045	-	157	157	100%	91%	-9%	10	54	44	1.1%	6.1%	5.0%
2046	-	122	122	100%	93%	-7%	10	54	44	1.1%	6.0%	4.9%
2047	-	84	84	100%	95%	-5%	10	54	44	1.1%	5.8%	4.8%
2048	-	44	44	100%	98%	-2%	10	55	45	1.1%	5.8%	4.8%
2049	-	-	-	100%	100%	0%	10	10	-	1.0%	1.0%	0.0%
2050	-	-	-	100%	100%	0%	10	10	-	1.0%	1.0%	0.0%
2051	-	-	-	100%	100%	0%	10	10	-	1.0%	1.0%	0.0%

Kentucky Retirement Systems
Exhibit 1-6
SPRS Insurance Fund
Summary of Fiscal Impact
(\$ in Millions)

Fiscal Year Beginning July 1, (1)	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contribution			Employer Contribution Rate		
	Current (2)	Proposed (3)	Difference (4)	Current (5)	Proposed (6)	Difference (7)	Current (8)	Proposed (9)	Difference (10)	Current (11)	Proposed (12)	Difference (13)
2017	\$ 97	\$ 97	\$ -	65%	65%	0%	\$ 9	\$ 9	\$ -	18.8%	18.8%	0.0%
2018	100	100	-	65%	65%	0%	13	13	-	27.2%	27.2%	0.0%
2019	100	100	-	66%	66%	0%	13	13	-	27.2%	27.2%	0.0%
2020	97	97	-	68%	68%	0%	13	12	(1)	25.6%	24.5%	-1.2%
2021	93	94	1	70%	70%	0%	13	11	(2)	25.6%	22.0%	-3.6%
2022	90	92	2	71%	71%	0%	12	11	(1)	22.9%	21.6%	-1.4%
2023	88	91	3	72%	71%	-1%	12	10	(2)	22.9%	19.2%	-3.7%
2024	84	88	4	74%	73%	-1%	11	10	(1)	20.4%	18.9%	-1.5%
2025	81	86	5	75%	73%	-2%	11	10	(1)	20.4%	18.5%	-1.8%
2026	78	85	7	76%	74%	-2%	10	9	(1)	18.2%	16.4%	-1.8%
2027	74	82	8	77%	74%	-3%	10	9	(1)	18.2%	16.1%	-2.1%
2028	71	81	10	78%	75%	-3%	9	9	-	16.4%	15.8%	-0.6%
2029	67	78	11	79%	75%	-4%	10	9	(1)	16.4%	15.3%	-1.1%
2030	64	76	12	79%	75%	-4%	9	8	(1)	14.9%	13.1%	-1.8%
2031	60	74	14	80%	76%	-4%	9	8	(1)	14.9%	12.9%	-2.0%
2032	56	72	16	81%	76%	-5%	9	8	(1)	13.6%	12.5%	-1.1%
2033	52	69	17	82%	77%	-5%	9	8	(1)	13.6%	12.1%	-1.5%
2034	47	66	19	84%	77%	-7%	9	8	(1)	12.6%	11.8%	-0.8%
2035	44	64	20	84%	77%	-7%	9	8	(1)	12.6%	11.6%	-1.0%
2036	39	61	22	86%	78%	-8%	8	8	-	11.8%	11.3%	-0.5%
2037	34	58	24	88%	79%	-9%	9	8	(1)	11.8%	11.0%	-0.8%
2038	29	55	26	89%	79%	-10%	8	8	-	11.1%	10.7%	-0.4%
2039	24	52	28	91%	80%	-11%	8	8	-	11.1%	10.4%	-0.7%
2040	18	48	30	93%	81%	-12%	8	8	-	10.4%	10.3%	-0.1%
2041	12	43	31	95%	83%	-12%	8	8	-	10.4%	10.0%	-0.4%
2042	6	39	33	98%	85%	-13%	8	8	-	9.6%	9.8%	0.2%
2043	-	34	34	100%	86%	-14%	2	8	6	1.8%	9.5%	7.7%
2044	-	30	30	100%	88%	-12%	2	8	6	1.8%	9.4%	7.6%
2045	-	25	25	100%	90%	-10%	2	8	6	1.8%	9.2%	7.4%
2046	-	19	19	100%	92%	-8%	2	8	6	1.8%	9.0%	7.2%
2047	-	13	13	100%	95%	-5%	2	9	7	1.8%	9.9%	8.1%
2048	-	7	7	100%	97%	-3%	2	9	7	1.7%	9.7%	8.0%
2049	-	-	-	100%	100%	0%	2	2	-	1.7%	1.7%	0.0%
2050	-	-	-	100%	100%	0%	2	2	-	1.7%	1.7%	0.0%
2051	-	-	-	100%	100%	0%	2	2	-	1.7%	1.7%	0.0%

Section 2.
Projected Cost of the Retirement and Insurance
Current Plan

Kentucky Retirement Systems
Exhibit 2-1
KERS Hazardous Retirement Fund
Current Plan
(\$ in Millions)

Fiscal Year	Actuarial	Actuarial	Unfunded	Funded		Employer	Member	Covered	Employer	Employer
Beginning	Accrued	Value of	Actuarial	Ratio		Contribution	Contribution	Payroll	Contribution as %	Actuarially
July 1,	Liability	Assets	Accrued Liability	(3) / (2)					of Covered Payroll	Determined
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)
2017	\$ 1,121	\$ 607	\$ 514	54%		\$ 35	\$ 13	\$ 162	21.44%	20.48%
2018	1,155	637	518	55%		57	13	166	34.39%	34.39%
2019	1,186	669	517	56%		58	14	170	34.39%	33.30%
2020	1,217	709	508	58%		57	14	174	32.60%	32.60%
2021	1,247	757	490	61%		58	14	179	32.60%	31.64%
2022	1,276	801	475	63%		55	15	183	30.23%	30.23%
2023	1,305	841	464	64%		57	15	188	30.23%	29.28%
2024	1,333	884	449	66%		55	15	193	28.30%	28.30%
2025	1,360	925	435	68%		56	16	197	28.30%	27.39%
2026	1,386	967	419	70%		53	16	202	26.47%	26.47%
2027	1,410	1,007	403	71%		55	16	206	26.47%	25.63%
2028	1,434	1,048	386	73%		52	17	211	24.72%	24.72%
2029	1,456	1,087	369	75%		53	17	216	24.72%	23.96%
2030	1,478	1,128	350	76%		51	18	222	23.16%	23.16%
2031	1,500	1,169	331	78%		53	18	229	23.16%	22.48%
2032	1,524	1,214	310	80%		51	19	236	21.75%	21.75%
2033	1,549	1,260	289	81%		53	19	242	21.75%	21.14%
2034	1,576	1,310	266	83%		51	20	249	20.47%	20.47%
2035	1,605	1,362	243	85%		52	20	256	20.47%	19.91%
2036	1,634	1,417	217	87%		51	21	263	19.29%	19.29%
2037	1,665	1,473	192	88%		52	22	269	19.29%	18.78%
2038	1,695	1,532	163	90%		50	22	276	18.16%	18.16%
2039	1,725	1,591	134	92%		51	23	282	18.16%	17.71%
2040	1,755	1,652	103	94%		49	23	288	17.15%	17.15%
2041	1,785	1,713	72	96%		50	23	293	17.15%	16.91%
2042	1,813	1,776	37	98%		49	24	299	16.55%	16.55%
2043	1,841	1,841	0	100%		13	24	305	4.10%	4.10%
2044	1,869	1,869	0	100%		13	25	311	4.10%	4.10%
2045	1,897	1,897	0	100%		13	25	318	4.10%	4.10%
2046	1,925	1,925	0	100%		13	26	325	4.10%	4.10%
2047	1,953	1,953	0	100%		14	27	333	4.10%	4.10%
2048	1,982	1,982	0	100%		14	27	340	4.10%	4.10%
2049	2,011	2,011	0	100%		14	28	348	4.10%	4.10%
2050	2,040	2,040	0	100%		15	28	356	4.10%	4.10%
2051	2,070	2,070	0	100%		15	29	364	4.10%	4.10%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.

The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

The employer contribution amount shown does not include the \$10 million additional contribution budgeted to be paid in fiscal year beginning 2017.

Kentucky Retirement Systems
Exhibit 2-2
CERS Hazardous Retirement Fund
Current Plan
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 4,649	\$ 2,238	\$ 2,411	48%	\$ 120	\$ 43	\$ 542	22.20%	22.20%
2018	4,771	2,293	2,478	48%	192	43	537	35.69%	35.69%
2019	4,880	2,376	2,504	49%	193	43	538	35.95%	35.95%
2020	4,978	2,478	2,500	50%	197	43	542	36.42%	36.42%
2021	5,066	2,610	2,456	52%	199	44	546	36.48%	36.48%
2022	5,145	2,712	2,433	53%	199	44	551	36.06%	36.06%
2023	5,214	2,809	2,405	54%	201	45	558	35.95%	35.95%
2024	5,274	2,902	2,372	55%	202	45	565	35.81%	35.81%
2025	5,325	2,992	2,333	56%	204	46	573	35.66%	35.66%
2026	5,367	3,079	2,288	57%	207	47	582	35.49%	35.49%
2027	5,400	3,164	2,236	59%	209	47	592	35.32%	35.32%
2028	5,426	3,248	2,178	60%	212	48	602	35.14%	35.14%
2029	5,444	3,333	2,111	61%	215	49	614	34.96%	34.96%
2030	5,457	3,420	2,037	63%	218	50	628	34.75%	34.75%
2031	5,466	3,512	1,954	64%	222	51	642	34.54%	34.54%
2032	5,472	3,611	1,861	66%	225	53	657	34.33%	34.33%
2033	5,478	3,719	1,759	68%	229	54	672	34.12%	34.12%
2034	5,483	3,837	1,646	70%	233	55	688	33.92%	33.92%
2035	5,489	3,967	1,522	72%	238	56	705	33.73%	33.73%
2036	5,495	4,110	1,385	75%	242	58	721	33.56%	33.56%
2037	5,502	4,267	1,235	78%	247	59	738	33.40%	33.40%
2038	5,510	4,439	1,071	81%	251	60	755	33.26%	33.26%
2039	5,519	4,627	892	84%	256	62	773	33.13%	33.13%
2040	5,528	4,831	697	87%	261	63	791	33.02%	33.02%
2041	5,540	5,056	484	91%	267	65	809	32.94%	32.94%
2042	5,555	5,301	254	95%	272	66	828	32.89%	32.89%
2043	5,573	5,573	0	100%	12	68	848	1.41%	1.41%
2044	5,595	5,595	0	100%	12	69	867	1.40%	1.40%
2045	5,619	5,619	0	100%	12	71	887	1.40%	1.40%
2046	5,646	5,646	0	100%	13	73	907	1.40%	1.40%
2047	5,674	5,674	0	100%	13	74	927	1.40%	1.40%
2048	5,704	5,704	0	100%	13	76	948	1.40%	1.40%
2049	5,736	5,736	0	100%	14	78	970	1.40%	1.40%
2050	5,769	5,769	0	100%	14	79	992	1.40%	1.40%
2051	5,803	5,803	0	100%	14	81	1,014	1.40%	1.40%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.
The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 2-3
SPRS Retirement Fund
Current Plan
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 967	\$ 261	\$ 706	27%	\$ 35	\$ 4	\$ 49	72.47%	71.57%
2018	970	264	706	27%	58	4	49	119.05%	119.05%
2019	972	275	697	28%	59	4	50	119.05%	117.69%
2020	972	290	682	30%	58	4	50	116.24%	116.24%
2021	972	308	664	32%	59	4	51	116.24%	114.50%
2022	970	325	645	34%	58	4	52	111.48%	111.48%
2023	967	341	626	35%	59	4	53	111.48%	109.03%
2024	964	358	606	37%	57	4	54	106.31%	106.31%
2025	959	373	586	39%	58	4	55	106.31%	103.75%
2026	953	390	563	41%	56	4	56	101.12%	101.12%
2027	946	405	541	43%	58	5	57	101.12%	98.44%
2028	938	423	515	45%	56	5	59	95.24%	95.24%
2029	930	440	490	47%	57	5	60	95.24%	92.43%
2030	922	459	463	50%	55	5	62	89.36%	89.36%
2031	914	477	437	52%	57	5	64	89.36%	86.61%
2032	905	499	406	55%	55	5	65	83.53%	83.53%
2033	897	519	378	58%	56	5	67	83.53%	81.10%
2034	888	544	344	61%	54	6	69	78.24%	78.24%
2035	880	567	313	64%	55	6	71	78.24%	75.87%
2036	872	595	277	68%	53	6	73	73.29%	73.29%
2037	865	622	243	72%	55	6	75	73.29%	71.26%
2038	857	652	205	76%	52	6	76	68.64%	68.64%
2039	851	683	168	80%	54	6	78	68.64%	66.76%
2040	844	718	126	85%	51	6	80	63.97%	63.97%
2041	839	753	86	90%	52	7	82	63.97%	62.25%
2042	833	791	42	95%	49	7	84	58.27%	58.27%
2043	829	829	0	100%	5	7	86	5.93%	5.93%
2044	825	825	0	100%	5	7	88	5.88%	5.88%
2045	821	821	0	100%	5	7	90	5.85%	5.85%
2046	818	818	0	100%	5	7	92	5.83%	5.83%
2047	815	815	0	100%	5	7	94	5.81%	5.81%
2048	813	813	0	100%	6	8	96	5.80%	5.80%
2049	811	811	0	100%	6	8	98	5.79%	5.79%
2050	810	810	0	100%	6	8	100	5.79%	5.79%
2051	809	809	0	100%	6	8	102	5.79%	5.79%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.

The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

The employer contribution amount shown does not include the \$10 million additional contribution budgeted to be paid in fiscal year beginning 2017.

Kentucky Retirement Systems
Exhibit 2-4
KERS Hazardous Insurance Fund
Current Plan
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarial Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 419	\$ 493	\$ (74)	118%	\$ 4	\$ 1	\$ 162	2.26%	1.34%
2018	436	507	(71)	116%	4	1	165	2.46%	2.46%
2019	453	516	(63)	114%	4	1	169	2.46%	2.15%
2020	468	529	(61)	113%	4	1	174	2.11%	2.11%
2021	482	548	(66)	114%	4	1	178	2.11%	1.84%
2022	494	559	(65)	113%	2	1	183	1.21%	1.21%
2023	504	568	(64)	113%	2	1	187	1.21%	0.91%
2024	513	575	(62)	112%	1	1	192	0.65%	0.65%
2025	520	581	(61)	112%	1	2	197	0.65%	0.50%
2026	525	585	(60)	111%	1	2	201	0.35%	0.35%
2027	530	587	(57)	111%	1	2	206	0.35%	0.25%
2028	534	589	(55)	110%	0	2	210	0.14%	0.14%
2029	537	590	(53)	110%	0	2	216	0.14%	0.09%
2030	540	590	(50)	109%	0	2	222	0.07%	0.07%
2031	543	590	(47)	109%	0	2	228	0.07%	0.10%
2032	546	590	(44)	108%	0	2	235	0.15%	0.15%
2033	550	590	(40)	107%	0	2	242	0.15%	0.20%
2034	554	591	(37)	107%	1	2	249	0.25%	0.25%
2035	559	592	(33)	106%	1	3	255	0.25%	0.31%
2036	565	594	(29)	105%	1	3	262	0.39%	0.39%
2037	572	597	(25)	104%	1	3	269	0.39%	0.43%
2038	580	601	(21)	104%	1	3	275	0.49%	0.49%
2039	588	605	(17)	103%	1	3	281	0.49%	0.54%
2040	598	610	(12)	102%	2	3	287	0.63%	0.63%
2041	608	616	(8)	101%	2	3	292	0.63%	0.68%
2042	618	622	(4)	101%	3	3	298	0.86%	0.86%
2043	629	629	0	100%	7	3	304	2.14%	2.14%
2044	640	640	0	100%	7	3	311	2.11%	2.11%
2045	651	651	0	100%	7	3	318	2.07%	2.07%
2046	662	662	0	100%	7	3	325	2.05%	2.05%
2047	673	673	0	100%	7	3	332	2.02%	2.02%
2048	685	685	0	100%	7	3	340	1.99%	1.99%
2049	696	696	0	100%	7	3	348	1.97%	1.97%
2050	707	707	0	100%	7	4	355	1.95%	1.95%
2051	718	718	0	100%	7	4	364	1.92%	1.92%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.
The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 2-5
CERS Hazardous Insurance Fund
Current Plan
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 1,788	\$ 1,197	\$ 591	67%	\$ 51	\$ 2	\$ 541	9.35%	9.35%
2018	1,853	1,243	610	67%	65	2	536	12.17%	12.17%
2019	1,912	1,290	622	67%	64	3	538	11.97%	11.97%
2020	1,962	1,343	619	68%	64	3	541	11.83%	11.83%
2021	2,005	1,405	600	70%	63	3	546	11.52%	11.52%
2022	2,038	1,446	592	71%	61	4	551	11.00%	11.00%
2023	2,061	1,478	583	72%	59	4	558	10.66%	10.66%
2024	2,075	1,501	574	72%	59	4	565	10.37%	10.37%
2025	2,081	1,517	564	73%	58	5	573	10.12%	10.12%
2026	2,078	1,526	552	73%	58	5	582	9.89%	9.89%
2027	2,068	1,528	540	74%	57	5	591	9.71%	9.71%
2028	2,052	1,527	525	74%	58	5	602	9.57%	9.57%
2029	2,031	1,522	509	75%	58	6	614	9.43%	9.43%
2030	2,008	1,517	491	76%	59	6	627	9.33%	9.33%
2031	1,982	1,511	471	76%	59	6	641	9.24%	9.24%
2032	1,954	1,506	448	77%	60	6	656	9.16%	9.16%
2033	1,927	1,503	424	78%	61	7	672	9.09%	9.09%
2034	1,899	1,502	397	79%	62	7	688	9.03%	9.03%
2035	1,873	1,506	367	80%	63	7	704	8.98%	8.98%
2036	1,849	1,515	334	82%	64	7	721	8.93%	8.93%
2037	1,828	1,530	298	84%	66	7	738	8.89%	8.89%
2038	1,811	1,552	259	86%	67	8	755	8.85%	8.85%
2039	1,796	1,580	216	88%	68	8	772	8.82%	8.82%
2040	1,785	1,617	168	91%	69	8	790	8.79%	8.79%
2041	1,779	1,661	118	93%	71	8	809	8.77%	8.77%
2042	1,776	1,714	62	97%	72	8	828	8.75%	8.75%
2043	1,777	1,777	0	100%	10	8	847	1.13%	1.13%
2044	1,782	1,782	0	100%	10	9	866	1.11%	1.11%
2045	1,789	1,789	0	100%	10	9	886	1.10%	1.10%
2046	1,799	1,799	0	100%	10	9	906	1.08%	1.08%
2047	1,811	1,811	0	100%	10	9	926	1.07%	1.07%
2048	1,823	1,823	0	100%	10	9	947	1.06%	1.06%
2049	1,836	1,836	0	100%	10	10	969	1.04%	1.04%
2050	1,847	1,847	0	100%	10	10	991	1.03%	1.03%
2051	1,859	1,859	0	100%	10	10	1,013	1.01%	1.01%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.
The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 2-6
SPRS Insurance Fund
Current Plan
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 277	\$ 180	\$ 97	65%	\$ 9	\$ 0	\$ 48	18.77%	18.10%
2018	286	186	100	65%	13	0	48	27.23%	27.23%
2019	295	195	100	66%	13	0	49	27.23%	26.34%
2020	302	205	97	68%	13	0	49	25.64%	25.64%
2021	309	216	93	70%	13	0	50	25.64%	24.57%
2022	314	224	90	71%	12	0	51	22.92%	22.92%
2023	319	231	88	72%	12	0	52	22.92%	21.70%
2024	321	237	84	74%	11	0	53	20.35%	20.35%
2025	322	241	81	75%	11	0	54	20.35%	19.25%
2026	322	244	78	76%	10	0	55	18.17%	18.17%
2027	320	246	74	77%	10	0	56	18.17%	17.28%
2028	318	247	71	78%	9	0	57	16.37%	16.37%
2029	314	247	67	79%	10	1	59	16.37%	15.65%
2030	310	246	64	79%	9	1	61	14.90%	14.90%
2031	305	245	60	80%	9	1	62	14.90%	14.30%
2032	300	244	56	81%	9	1	64	13.64%	13.64%
2033	294	242	52	82%	9	1	66	13.64%	13.13%
2034	288	241	47	84%	9	1	68	12.58%	12.58%
2035	283	239	44	84%	9	1	69	12.58%	12.18%
2036	277	238	39	86%	8	1	71	11.77%	11.77%
2037	272	238	34	88%	9	1	73	11.77%	11.45%
2038	267	238	29	89%	8	1	75	11.06%	11.06%
2039	263	239	24	91%	8	1	77	11.06%	10.79%
2040	259	241	18	93%	8	1	78	10.39%	10.39%
2041	255	243	12	95%	8	1	80	10.39%	10.15%
2042	252	246	6	98%	8	1	82	9.59%	9.59%
2043	250	250	0	100%	2	1	84	1.84%	1.84%
2044	249	249	0	100%	2	1	85	1.82%	1.82%
2045	248	248	0	100%	2	1	87	1.80%	1.80%
2046	248	248	0	100%	2	1	89	1.78%	1.78%
2047	248	248	0	100%	2	1	91	1.75%	1.75%
2048	249	249	0	100%	2	1	93	1.73%	1.73%
2049	249	249	0	100%	2	1	95	1.71%	1.71%
2050	250	250	0	100%	2	1	97	1.69%	1.69%
2051	251	251	0	100%	2	1	99	1.66%	1.66%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation and assumes constant active membership count in all future years.
The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Section 3.
Projected Cost of the Retirement and Insurance
Proposed Legislation

Kentucky Retirement Systems
Exhibit 3-1
KERS Hazardous Retirement Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 1,121	\$ 607	\$ 514	54%	\$ 35	\$ 13	\$ 162	21.44%	20.48%
2018	1,155	637	518	55%	57	13	166	34.37%	34.37%
2019	1,186	669	517	56%	58	14	170	34.37%	33.26%
2020	1,217	709	508	58%	52	14	174	29.81%	29.81%
2021	1,247	752	495	60%	52	14	179	29.01%	29.01%
2022	1,276	789	487	62%	51	15	183	27.82%	27.82%
2023	1,304	824	480	63%	51	15	188	26.98%	26.98%
2024	1,332	859	473	64%	50	15	193	26.15%	26.15%
2025	1,359	895	464	66%	50	16	197	25.43%	25.43%
2026	1,385	929	456	67%	50	16	202	24.67%	24.67%
2027	1,409	962	447	68%	49	16	206	23.93%	23.93%
2028	1,433	995	438	69%	49	17	211	23.17%	23.17%
2029	1,455	1,028	427	71%	49	17	216	22.43%	22.43%
2030	1,476	1,060	416	72%	48	18	222	21.77%	21.77%
2031	1,499	1,094	405	73%	48	18	229	21.17%	21.17%
2032	1,522	1,129	393	74%	49	19	236	20.60%	20.60%
2033	1,547	1,167	380	75%	49	19	242	20.08%	20.08%
2034	1,574	1,207	367	77%	49	20	249	19.58%	19.58%
2035	1,602	1,250	352	78%	49	20	256	19.14%	19.14%
2036	1,632	1,295	337	79%	49	21	263	18.67%	18.67%
2037	1,662	1,341	321	81%	49	22	269	18.25%	18.25%
2038	1,692	1,389	303	82%	49	22	276	17.82%	17.82%
2039	1,722	1,438	284	84%	49	23	282	17.43%	17.43%
2040	1,752	1,488	264	85%	49	23	288	17.10%	17.10%
2041	1,780	1,538	242	86%	49	23	293	16.87%	16.87%
2042	1,809	1,589	220	88%	50	24	299	16.64%	16.64%
2043	1,836	1,641	195	89%	50	24	305	16.45%	16.45%
2044	1,864	1,695	169	91%	51	25	311	16.30%	16.30%
2045	1,891	1,750	141	93%	51	25	318	16.16%	16.16%
2046	1,918	1,808	110	94%	52	26	325	16.06%	16.06%
2047	1,946	1,868	78	96%	53	27	333	16.05%	16.05%
2048	1,974	1,932	42	98%	55	27	340	16.28%	16.28%
2049	2,003	2,003	-	100%	14	28	348	4.10%	4.10%
2050	2,032	2,032	-	100%	15	28	356	4.10%	4.10%
2051	2,061	2,061	-	100%	15	29	364	4.10%	4.10%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The actuarial determined contribution is determined by the prior year's actuarial valuation.

The employer contribution amount shown does not include the \$10 million additional contribution budgeted to be paid in fiscal year beginning 2017.

Kentucky Retirement Systems
Exhibit 3-2
CERS Hazardous Retirement Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 4,649	\$ 2,238	\$ 2,411	48%	\$ 120	\$ 43	\$ 542	22.20%	22.20%
2018	4,771	2,293	2,478	48%	192	43	537	35.68%	35.68%
2019	4,880	2,376	2,504	49%	193	43	538	35.95%	35.95%
2020	4,978	2,478	2,500	50%	213	43	542	39.40%	39.40%
2021	5,066	2,626	2,440	52%	211	44	546	38.73%	38.73%
2022	5,144	2,743	2,401	53%	207	44	551	37.56%	37.56%
2023	5,213	2,850	2,363	55%	205	45	558	36.73%	36.73%
2024	5,273	2,950	2,323	56%	203	45	565	35.89%	35.89%
2025	5,324	3,043	2,281	57%	201	46	573	35.06%	35.06%
2026	5,366	3,130	2,236	58%	199	47	582	34.22%	34.22%
2027	5,399	3,210	2,189	59%	198	47	592	33.38%	33.38%
2028	5,425	3,286	2,139	61%	196	48	602	32.55%	32.55%
2029	5,443	3,356	2,087	62%	195	49	614	31.71%	31.71%
2030	5,455	3,424	2,031	63%	194	50	628	30.89%	30.89%
2031	5,464	3,492	1,972	64%	193	51	642	30.10%	30.10%
2032	5,471	3,560	1,911	65%	193	53	657	29.34%	29.34%
2033	5,476	3,631	1,845	66%	192	54	672	28.60%	28.60%
2034	5,481	3,705	1,776	68%	192	55	688	27.90%	27.90%
2035	5,486	3,784	1,702	69%	192	56	705	27.25%	27.25%
2036	5,492	3,869	1,623	70%	192	58	721	26.61%	26.61%
2037	5,499	3,959	1,540	72%	192	59	738	26.00%	26.00%
2038	5,506	4,055	1,451	74%	192	60	755	25.43%	25.43%
2039	5,514	4,157	1,357	75%	192	62	773	24.87%	24.87%
2040	5,523	4,267	1,256	77%	192	63	791	24.33%	24.33%
2041	5,535	4,385	1,150	79%	193	65	809	23.82%	23.82%
2042	5,549	4,512	1,037	81%	193	66	828	23.31%	23.31%
2043	5,566	4,651	915	84%	194	68	848	22.84%	22.84%
2044	5,587	4,800	787	86%	194	69	867	22.40%	22.40%
2045	5,610	4,960	650	88%	195	71	887	21.98%	21.98%
2046	5,636	5,132	504	91%	196	73	907	21.58%	21.58%
2047	5,663	5,315	348	94%	197	74	927	21.23%	21.23%
2048	5,692	5,510	182	97%	199	76	948	20.99%	20.99%
2049	5,722	5,722	-	100%	14	78	970	1.40%	1.40%
2050	5,753	5,753	-	100%	14	79	992	1.40%	1.40%
2051	5,785	5,785	-	100%	14	81	1,014	1.40%	1.40%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The actuarial determined contribution is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 3-3
SPRS Retirement Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 967	\$ 261	\$ 706	27%	\$ 35	\$ 4	\$ 49	72.47%	71.57%
2018	970	264	706	27%	58	4	49	119.04%	119.04%
2019	972	275	697	28%	59	4	50	119.04%	117.68%
2020	972	290	682	30%	52	4	50	104.43%	104.43%
2021	972	302	670	31%	52	4	51	102.48%	102.48%
2022	970	312	658	32%	52	4	52	99.99%	99.99%
2023	967	321	646	33%	52	4	53	97.80%	97.80%
2024	964	329	635	34%	51	4	54	95.58%	95.58%
2025	959	337	622	35%	51	4	55	93.46%	93.46%
2026	952	344	608	36%	51	4	56	90.98%	90.98%
2027	946	352	594	37%	51	5	57	88.38%	88.38%
2028	938	359	579	38%	50	5	59	85.93%	85.93%
2029	930	367	563	39%	50	5	60	83.52%	83.52%
2030	922	375	547	41%	50	5	62	81.09%	81.09%
2031	914	384	530	42%	50	5	64	78.76%	78.76%
2032	905	393	512	43%	50	5	65	76.67%	76.67%
2033	896	404	492	45%	50	5	67	74.48%	74.48%
2034	888	416	472	47%	50	6	69	72.46%	72.46%
2035	880	429	451	49%	50	6	71	70.67%	70.67%
2036	872	443	429	51%	50	6	73	68.94%	68.94%
2037	864	459	405	53%	50	6	75	67.19%	67.19%
2038	857	476	381	56%	50	6	76	65.66%	65.66%
2039	850	496	354	58%	50	6	78	64.05%	64.05%
2040	844	517	327	61%	50	6	80	62.75%	62.75%
2041	838	540	298	64%	50	7	82	61.51%	61.51%
2042	833	565	268	68%	51	7	84	60.15%	60.15%
2043	828	592	236	71%	51	7	86	59.01%	59.01%
2044	824	622	202	75%	51	7	88	57.93%	57.93%
2045	820	654	166	80%	51	7	90	56.90%	56.90%
2046	817	689	128	84%	51	7	92	55.99%	55.99%
2047	815	726	89	89%	52	7	94	55.21%	55.21%
2048	812	766	46	94%	52	8	96	54.76%	54.76%
2049	810	810	-	100%	6	8	98	5.79%	5.79%
2050	809	809	-	100%	6	8	100	5.79%	5.79%
2051	807	807	-	100%	6	8	102	5.79%	5.79%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The actuarial determined contribution is determined by the prior year's actuarial valuation.

The employer contribution amount shown does not include the \$10 million additional contribution budgeted to be paid in fiscal year beginning 2017.

Kentucky Retirement Systems
Exhibit 3-4
KERS Hazardous Insurance Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 419	\$ 493	\$ (74)	118%	\$ 4	\$ 1	\$ 162	2.26%	1.34%
2018	436	507	(71)	116%	4	1	165	2.46%	2.46%
2019	453	516	(63)	114%	4	1	169	2.46%	1.92%
2020	468	530	(62)	113%	4	1	174	2.30%	2.30%
2021	482	549	(67)	114%	3	2	178	1.69%	1.69%
2022	494	561	(67)	114%	2	2	183	1.09%	1.09%
2023	504	570	(66)	113%	2	2	187	1.07%	1.07%
2024	513	578	(65)	113%	2	2	192	1.04%	1.04%
2025	520	584	(64)	112%	1	2	197	0.51%	0.51%
2026	525	589	(64)	112%	1	2	201	0.50%	0.50%
2027	530	592	(62)	112%	1	2	206	0.49%	0.49%
2028	534	594	(60)	111%	1	2	210	0.48%	0.48%
2029	537	596	(59)	111%	1	2	216	0.46%	0.46%
2030	540	597	(57)	111%	1	2	222	0.45%	0.45%
2031	543	598	(55)	110%	1	2	228	0.44%	0.44%
2032	546	599	(53)	110%	1	2	235	0.43%	0.43%
2033	550	601	(51)	109%	1	2	242	0.41%	0.41%
2034	554	603	(49)	109%	1	2	249	0.40%	0.40%
2035	559	606	(47)	108%	1	3	255	0.39%	0.39%
2036	565	609	(44)	108%	1	3	262	0.38%	0.38%
2037	572	614	(42)	107%	1	3	269	0.37%	0.37%
2038	580	619	(39)	107%	2	3	275	0.73%	0.73%
2039	588	624	(36)	106%	2	3	281	0.71%	0.71%
2040	598	631	(33)	106%	2	3	287	0.70%	0.70%
2041	608	638	(30)	105%	2	3	292	0.68%	0.68%
2042	618	645	(27)	104%	2	3	298	0.67%	0.67%
2043	629	652	(23)	104%	2	3	304	0.66%	0.66%
2044	640	659	(19)	103%	2	3	311	0.64%	0.64%
2045	651	666	(15)	102%	2	3	318	0.63%	0.63%
2046	662	674	(12)	102%	2	3	325	0.62%	0.62%
2047	673	681	(8)	101%	2	3	332	0.60%	0.60%
2048	685	688	(3)	100%	3	3	340	0.88%	0.88%
2049	696	696	-	100%	7	3	348	1.97%	1.97%
2050	707	707	-	100%	7	4	355	1.95%	1.95%
2051	718	718	-	100%	7	4	364	1.92%	1.92%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 3-5
CERS Hazardous Insurance Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 1,788	\$ 1,197	\$ 591	67%	\$ 51	\$ 2	\$ 541	9.35%	9.35%
2018	1,853	1,243	610	67%	65	4	536	12.17%	12.17%
2019	1,912	1,292	620	68%	63	4	538	11.71%	11.71%
2020	1,962	1,344	618	69%	67	4	541	12.38%	12.38%
2021	2,005	1,411	594	70%	65	4	546	11.90%	11.90%
2022	2,038	1,455	583	71%	61	5	551	11.07%	11.07%
2023	2,061	1,489	572	72%	59	5	558	10.57%	10.57%
2024	2,075	1,514	561	73%	58	5	565	10.27%	10.27%
2025	2,081	1,531	550	74%	56	5	573	9.77%	9.77%
2026	2,078	1,539	539	74%	55	6	582	9.45%	9.45%
2027	2,068	1,541	527	75%	54	6	591	9.14%	9.14%
2028	2,052	1,537	515	75%	53	6	602	8.80%	8.80%
2029	2,031	1,529	502	75%	53	6	614	8.63%	8.63%
2030	2,008	1,519	489	76%	52	6	627	8.29%	8.29%
2031	1,982	1,507	475	76%	52	6	641	8.11%	8.11%
2032	1,954	1,495	459	77%	52	7	656	7.93%	7.93%
2033	1,927	1,483	444	77%	52	7	672	7.74%	7.74%
2034	1,899	1,472	427	78%	52	7	688	7.56%	7.56%
2035	1,873	1,463	410	78%	52	7	704	7.39%	7.39%
2036	1,849	1,458	391	79%	52	7	721	7.21%	7.21%
2037	1,828	1,457	371	80%	52	7	738	7.05%	7.05%
2038	1,811	1,461	350	81%	52	8	755	6.89%	6.89%
2039	1,796	1,469	327	82%	53	8	772	6.87%	6.87%
2040	1,785	1,482	303	83%	53	8	790	6.71%	6.71%
2041	1,779	1,501	278	84%	53	8	809	6.55%	6.55%
2042	1,776	1,525	251	86%	53	8	828	6.40%	6.40%
2043	1,777	1,556	221	88%	53	8	847	6.26%	6.26%
2044	1,782	1,591	191	89%	53	9	866	6.12%	6.12%
2045	1,789	1,632	157	91%	54	9	886	6.09%	6.09%
2046	1,799	1,677	122	93%	54	9	906	5.96%	5.96%
2047	1,811	1,727	84	95%	54	9	926	5.83%	5.83%
2048	1,823	1,779	44	98%	55	9	947	5.81%	5.81%
2049	1,836	1,836	-	100%	10	10	969	1.04%	1.04%
2050	1,847	1,847	-	100%	10	10	991	1.03%	1.03%
2051	1,859	1,859	-	100%	10	10	1,013	1.01%	1.01%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.

Kentucky Retirement Systems
Exhibit 3-6
SPRS Insurance Fund
Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2017	\$ 277	\$ 180	\$ 97	65%	\$ 9	\$ 0	\$ 48	18.77%	18.10%
2018	286	186	100	65%	13	0	48	27.23%	27.23%
2019	295	195	100	66%	13	0	49	27.23%	26.10%
2020	302	205	97	68%	12	0	49	24.49%	24.49%
2021	309	215	94	70%	11	0	50	22.00%	22.00%
2022	314	222	92	71%	11	0	51	21.57%	21.57%
2023	319	228	91	71%	10	0	52	19.23%	19.23%
2024	321	233	88	73%	10	0	53	18.87%	18.87%
2025	322	236	86	73%	10	0	54	18.52%	18.52%
2026	322	237	85	74%	9	1	55	16.36%	16.36%
2027	320	238	82	74%	9	1	56	16.07%	16.07%
2028	318	237	81	75%	9	1	57	15.79%	15.79%
2029	314	236	78	75%	9	1	59	15.25%	15.25%
2030	310	234	76	75%	8	1	61	13.11%	13.11%
2031	305	231	74	76%	8	1	62	12.90%	12.90%
2032	300	228	72	76%	8	1	64	12.50%	12.50%
2033	294	225	69	77%	8	1	66	12.12%	12.12%
2034	288	222	66	77%	8	1	68	11.76%	11.76%
2035	283	219	64	77%	8	1	69	11.59%	11.59%
2036	277	216	61	78%	8	1	71	11.27%	11.27%
2037	272	214	58	79%	8	1	73	10.96%	10.96%
2038	267	212	55	79%	8	1	75	10.67%	10.67%
2039	263	211	52	80%	8	1	77	10.39%	10.39%
2040	259	211	48	81%	8	1	78	10.26%	10.26%
2041	255	212	43	83%	8	1	80	10.00%	10.00%
2042	252	213	39	85%	8	1	82	9.76%	9.76%
2043	250	216	34	86%	8	1	84	9.52%	9.52%
2044	249	219	30	88%	8	1	85	9.41%	9.41%
2045	248	223	25	90%	8	1	87	9.20%	9.20%
2046	248	229	19	92%	8	1	89	8.99%	8.99%
2047	248	235	13	95%	9	1	91	9.89%	9.89%
2048	249	242	7	97%	9	1	93	9.68%	9.68%
2049	249	249	0	100%	2	1	95	1.71%	1.71%
2050	250	250	0	100%	2	1	97	1.69%	1.69%
2051	251	251	0	100%	2	1	99	1.66%	1.66%

Notes and assumptions:

The projection is based on the results of the June 30, 2017 actuarial valuation.

The employer actuarially determined contribution rate for a particular year is determined by the prior year's actuarial valuation.