



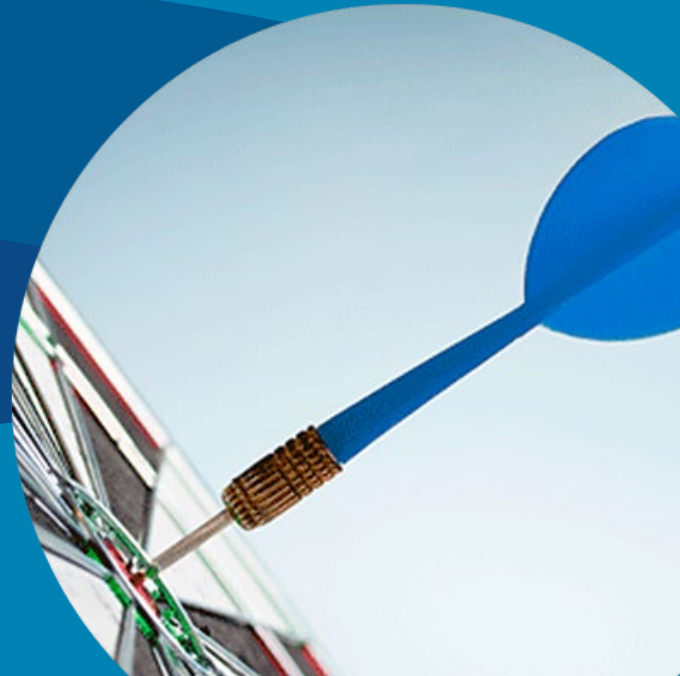
Kentucky Retirement Systems

2023 Actuarial Valuation Results

November 14, 2023

Janie Shaw, ASA, EA, MAAA

Danny White, FSA, EA, MAAA



Comments on Valuation Results

- Board adopted new assumptions in June 2023
 - **Investment Return Assumption:** Increased to 6.50% for insurance funds
 - **Mortality:** Update the base mortality assumption to reflect recent experience (data dependent). Update the improvement assumption based on more recent published report (anticipated trend).
 - Increase disability mortality. No change to pre-retirement mortality
 - **Termination/Withdrawal:** Increase the rates of termination prior to retirement age
 - **Disability incidence:** Decrease the rate of disability incidence for the KERS non-hazardous fund
 - **Cash Balance Interest Credit:** Increased to 5.90% for KERS non-hazardous and SPRS funds and to 6.75% for KERS hazardous fund

Comments on Valuation Results

- Change in active membership and payroll
 - Active membership increased across all funds
 - KERS Hazardous: 28% increase in membership payroll
 - SPRS: 38% increase in membership payroll
 - Employer contribution for the KERS non-hazardous fund is no longer tied to payroll

Comments on Valuation Results

- Overview of legislation passed in 2023
 - **HB 506:** reinstated the Partial Lump Sum Option Form of payment, and adjusted the minimum required separation period for return to work
 - **HB 1 and HB 604:** provides \$240 million in additional appropriations to the non-hazardous retirement fund each year for two years (FY 2023 and FY 2024)

Comments on Valuation Results

- FYE 2023 Investment Experience
 - 7% to 9% return on market value (varies by fund)
 - Assumed rate of return: 5.25% for KERS non-hazardous and SPRS retirement funds
 - Assumed rate of return: 6.25% for KERS hazardous retirement fund
 - Assumed rate of return: 6.25% for insurance funds (6.50% after the 2023 after the valuation date)
 - Fund assets \$158M more than expected for KERS and SPRS (\$87M pension and \$71M insurance)
 - \$11M in asset gains recognized this year (\$10M pension and \$1M insurance)

Comments on Valuation Results

- Retirement Fund Liability Experience
 - \$545M loss for all KERS/SPRS retirement funds combined
 - Primarily attributed to salary increases being greater than expected for individual active members
- Insurance Fund Liability Experience
 - \$199M loss for all KERS/SPRS insurance funds combined
 - 2024 Pre-Medicare premiums higher than expected partially offset by Medicare premiums lower than expected

Comments on KERS Non-Haz Retirement Fund

- Imperative to maintain or increase contribution effort for the non-hazardous retirement fund
 - June 30, 2023 plan assets were \$3,540 million
 - Fund distributed \$1,049 million in benefit payments and administrative expenses in FYE 2023
 - Fund received \$1,360 million in employer and member contributions in FYE 2023

Actuarially Determined Employer Contributions

	KERS Non-Hazardous		KERS Hazardous		SPRS	
	2022 Val	2023 Val	2022 Val	2023 Val	2022 Val	2023 Val
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pension Fund	7.74%	6.99%	30.12%	23.74%	85.39%	65.79%
Insurance Fund	<u>1.86%</u>	<u>1.45%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>3.68%</u>	<u>2.31%</u>
Actuarially Determined Contribution, payable as a percentage of payroll	9.60%	8.44%	30.12%	23.74%	89.07%	68.10%
Difference		-1.16%		-6.38%		-20.97%
Amortization Cost – Pension	\$ 901M	\$ 855M				
Amortization Cost – Insurance	<u>5M</u>	<u>2M</u>				
Amortization Cost - Total	\$ 906M	\$ 857M	N/A	N/A	N/A	N/A
Difference		\$(49)				

Note: The 2023 valuation establishes the contribution requirement for FYE2025 and FYE2026. The 2022 valuation was provided for informational purposes only.



Actuarially Determined Employer Contributions (\$millions)

	KERS Non-Hazardous		KERS Hazardous		SPRS	
	2022 Val	2023 Val	2022 Val	2023 Val	2022 Val	2023 Val
(1)	(2)	(3)	(4)	(5)	(4)	(5)
Pension Fund	\$1,006	\$968	\$50	\$50	\$41	\$43
Insurance Fund	<u>30</u>	<u>25</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>2</u>
Total Actuarially Determined Employer Contribution	\$1,036	\$993	\$50	\$50	\$43	\$45
Change in Actuarially Determined Employer Contribution		\$(43)		\$0		\$2

Note: The 2023 valuation establishes the contribution requirement for FYE2025 and FYE2026. The 2022 valuation was provided for informational purposes only.

Change in Required Employer Contributions

KERS Non-Hazardous – Amortization Cost

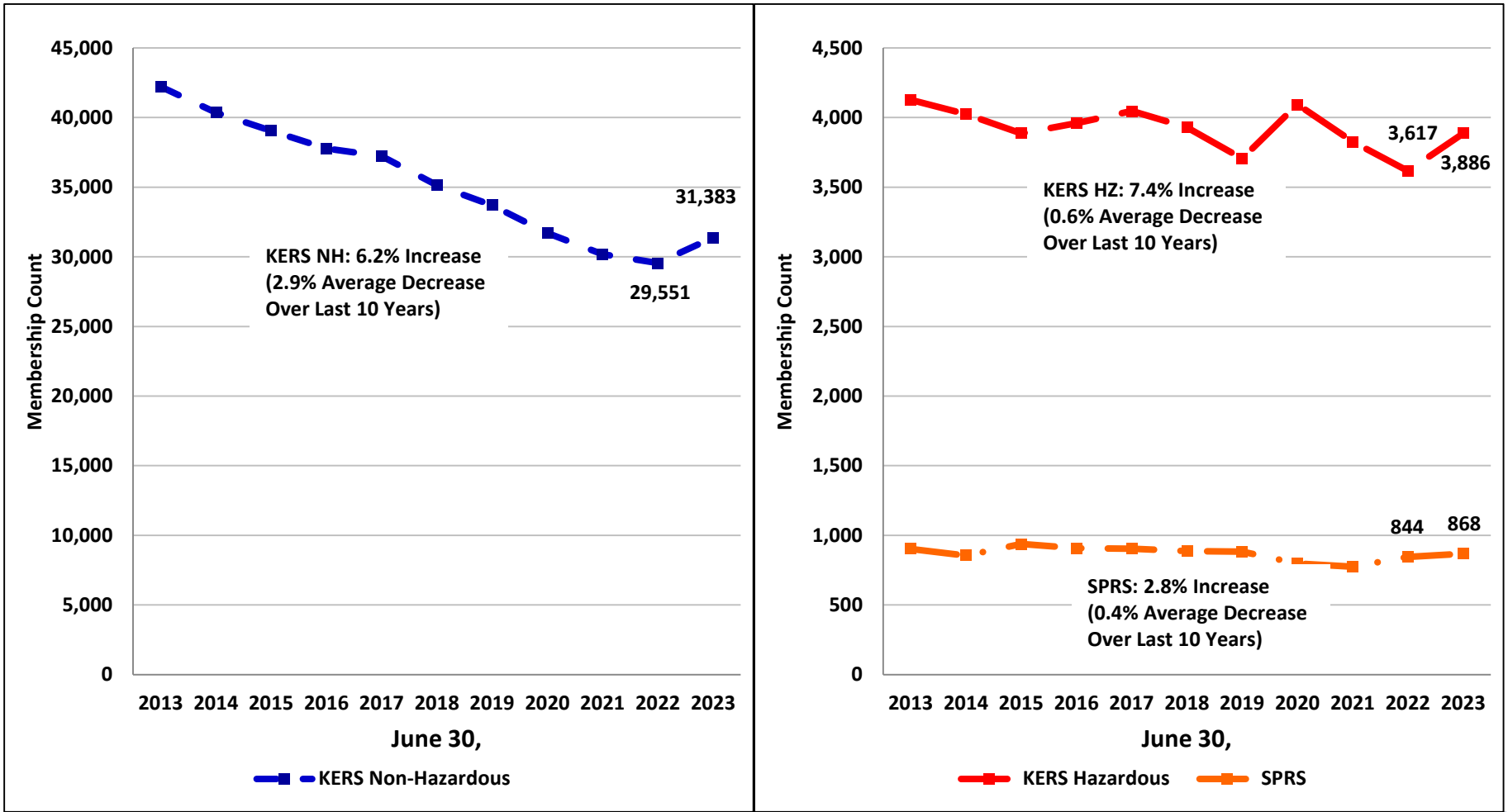
	KERS Non-Hazardous (\$millions)			
	Pension	Insurance	Total	
Amortization Cost – FY 2024	\$ 906	\$ 88	\$ 994	← Based on June 30, 2021 Valuation
Impact of 2022 Valuation	<u>(5)</u>	<u>(83)</u>	<u>(88)</u>	
Amortization Cost – 2022 Val	\$ 901	\$ 5	\$ 906	← Informational purposes only
\$240M in Appropriations	(20)	0	(20)	
Investment Experience	(1)	0	(1)	
Demographic Experience	35	7	42	← Salary increases for active members higher than expected
Experience Study	<u>(60)</u>	<u>(10)</u>	<u>(70)</u>	
Total Change	\$(46)	\$(3)	\$(49)	
Amortization Cost – 2023 Val (FY 2025)	\$ 855	\$ 2	\$ 857	



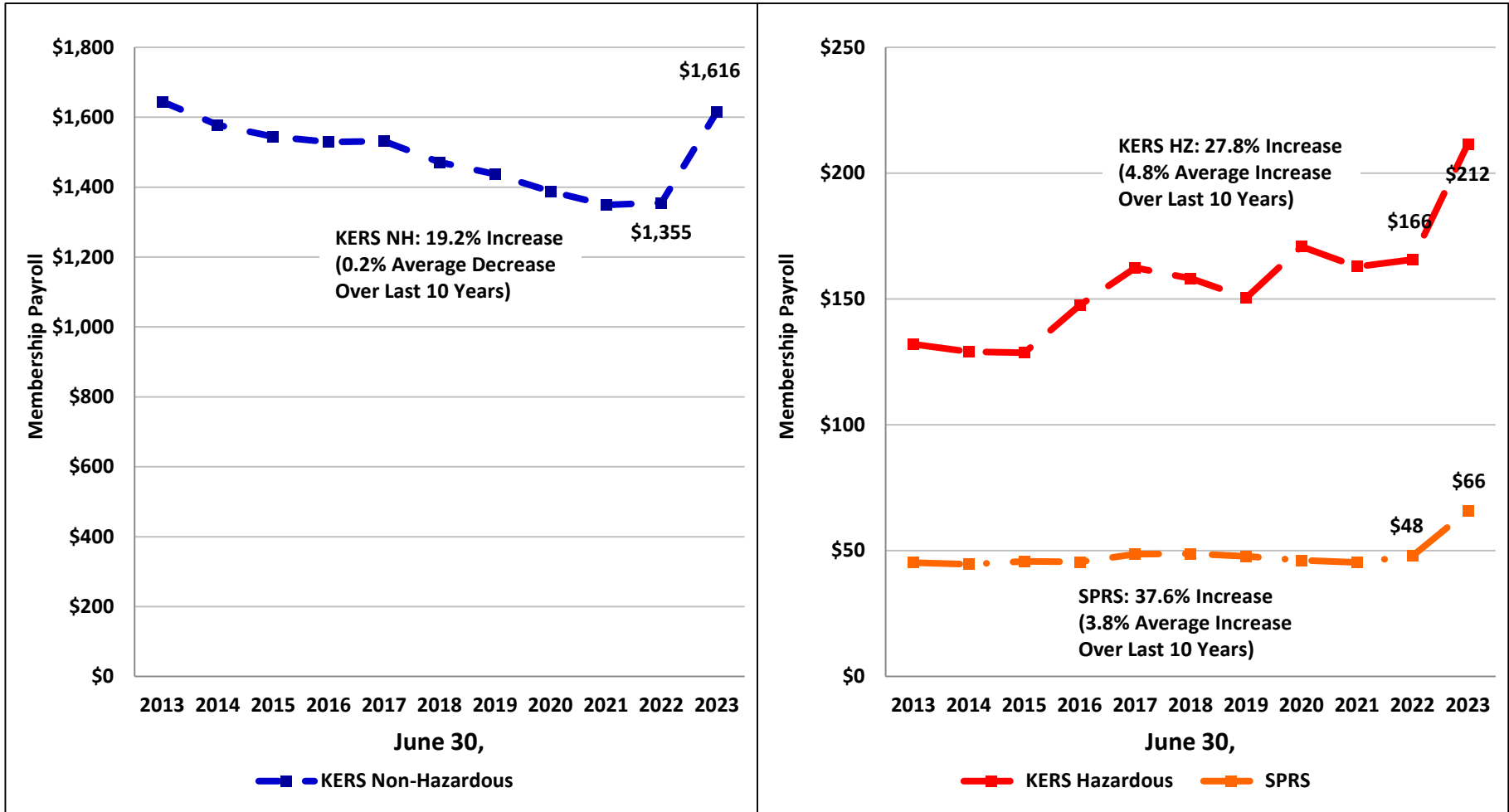
Unfunded Actuarial Accrued Liability – Actuarial Value of Asset Basis (\$ in Billions)

	KERS Non-Hazardous		KERS Hazardous		SPRS	
	2022 Val	2023 Val	2022 Val	2023 Val	2022 Val	2023 Val
(1)	(2)	(3)	(4)	(5)	(4)	(5)
Pension Fund	\$13.51	\$12.75	\$0.48	\$0.47	\$0.51	\$0.50
Insurance Fund	<u>0.37</u>	<u>0.34</u>	<u>(0.25)</u>	<u>(0.26)</u>	<u>(0.00)</u>	<u>(0.00)</u>
Total Unfunded Actuarial Accrued Liability	\$13.88	\$13.10	\$0.23	\$0.22	\$0.51	\$0.50
Change in Unfunded Actuarial Accrued Liability		\$(0.79)		\$(0.02)		\$(0.01)

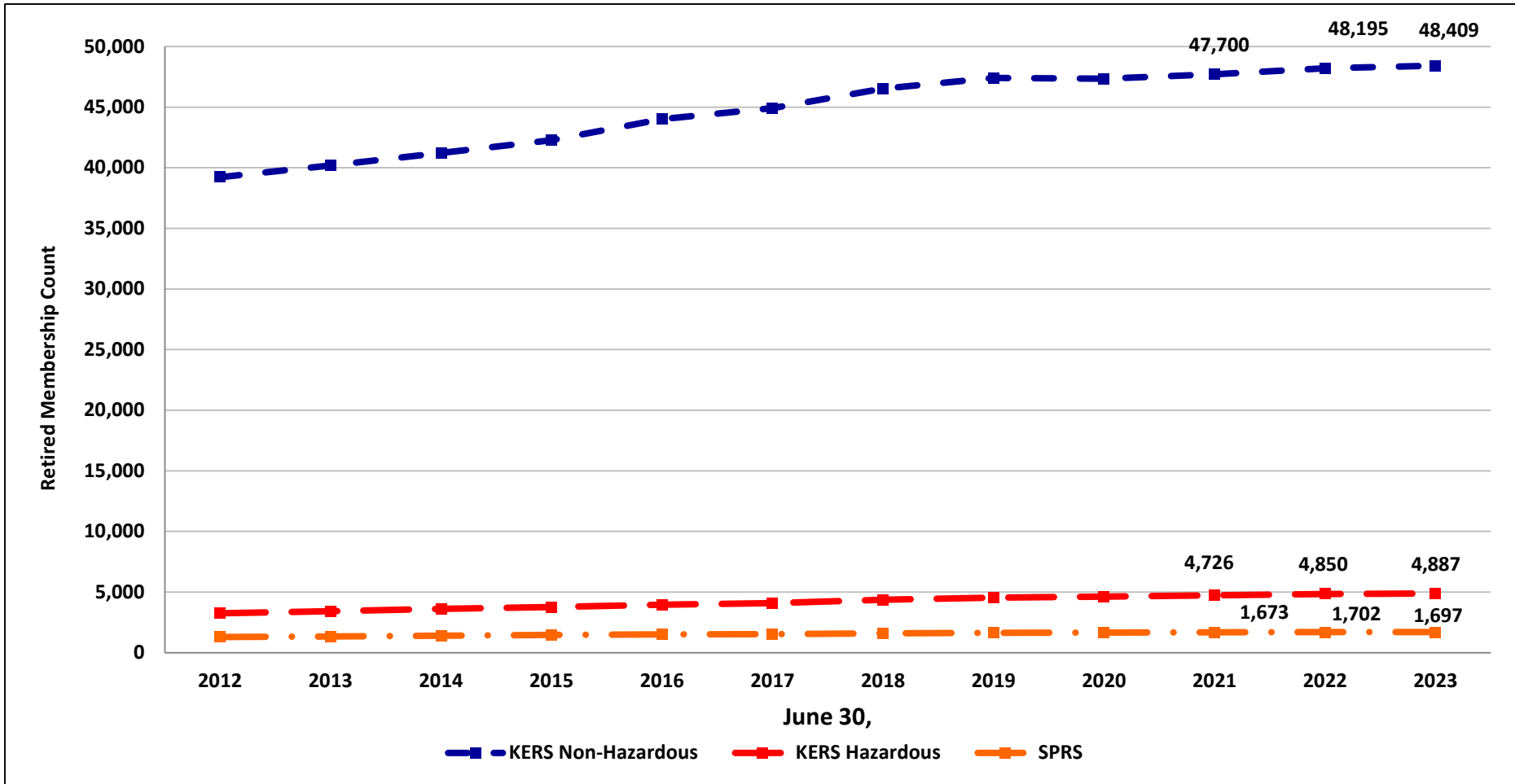
Active Membership Count



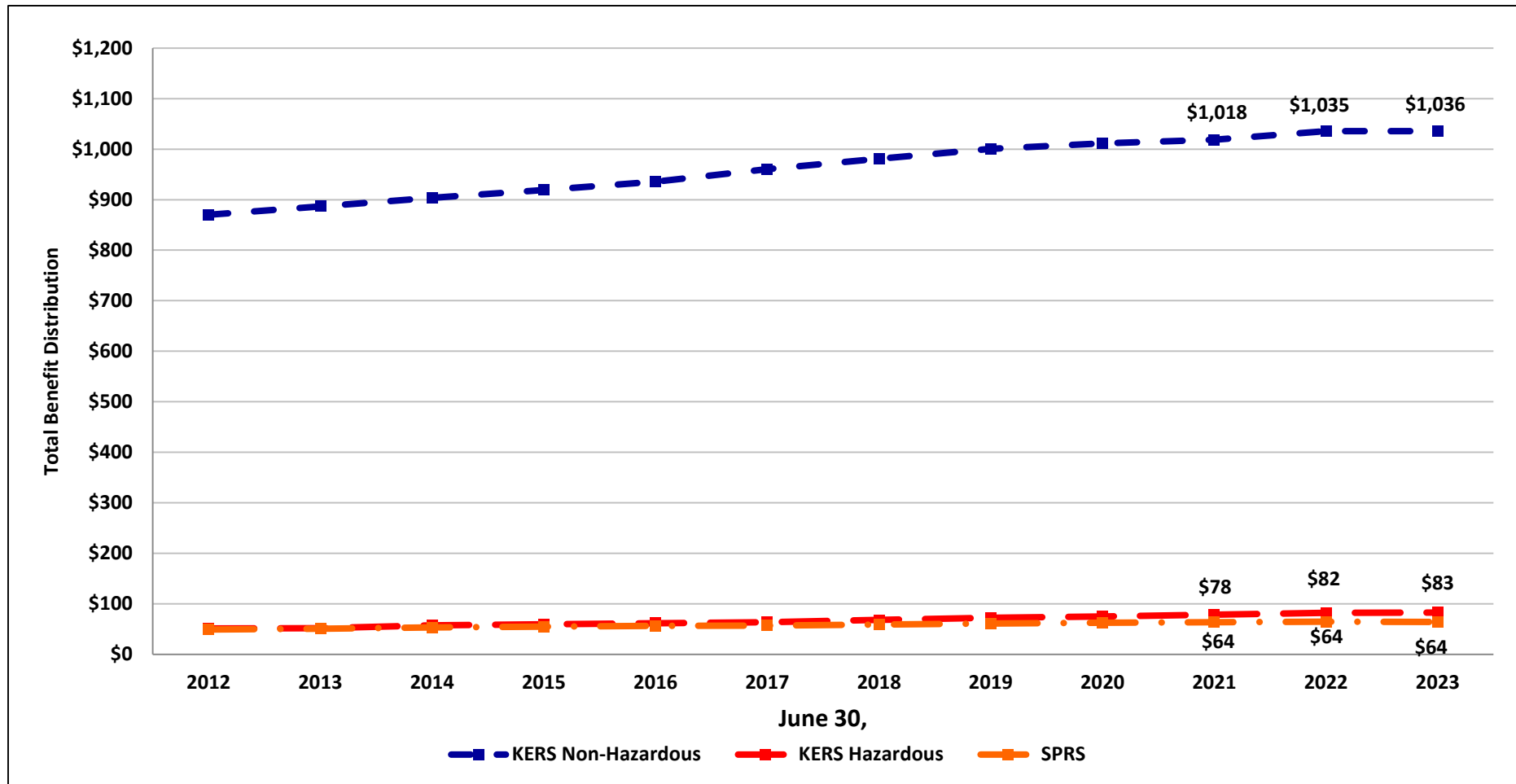
Membership Payroll (\$ in Millions)



Retired Membership Count



Pension Benefit Distributions (\$ in Millions)



Funding Results – KERS (\$ in millions)

Item	Non-Hazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
	2022	2023	2022	2023	2022	2023	2022	2023
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	11.76%	11.13%	2.29%	1.94%	15.72%	15.00%	4.07%	2.77%
Member Rate	<u>(5.00)%</u>	<u>(5.00)%</u>	<u>(0.49)%</u>	<u>(0.54)%</u>	<u>(8.00)%</u>	<u>(8.00)%</u>	<u>(0.70)%</u>	<u>(0.75)%</u>
Employer Normal Cost Rate	6.76%	6.13%	1.80%	1.40%	7.72%	7.00%	3.37%	2.02%
Administrative Expenses	0.98%	0.86%	0.06%	0.05%	0.88%	0.71%	0.08%	0.06%
Amortization Cost	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>21.52%</u>	<u>16.03%</u>	<u>(13.39)%</u>	<u>(11.29)%</u>
Total Actuarially Determined Rate	7.74%	6.99%	1.86%	1.45%	30.12%	23.74%	0.00%	0.00%
Amortization Cost to be Allocated	\$ 901M	\$ 855M	5M	2M	N/A	N/A	N/A	N/A
Actuarial Accrued Liability (AAL)	\$16,577	\$16,304	\$1,782	\$1,877	\$1,317	\$1,363	\$347	\$364
Actuarial Value of Assets	<u>\$3,065</u>	<u>\$3,552</u>	<u>\$1,410</u>	<u>\$1,533</u>	<u>\$832</u>	<u>\$891</u>	<u>\$598</u>	<u>\$620</u>
Unfunded AAL	\$13,511	\$12,752	\$373	\$344	\$484	\$472	\$(251)	\$(256)
Funded Ratio	18.5%	21.8%	79.1%	81.7%	63.2%	65.4%	172.2%	170.4%



Funding Results – SPRS (\$ in millions)

Item	Pension		Insurance	
	2022	2023	2022	2023
(1)	(2)	(3)	(4)	(5)
Total Normal Cost Rate	26.92%	26.97%	7.03%	5.39%
Member Rate	<u>(8.00)%</u>	<u>(8.00)%</u>	<u>(0.52)%</u>	<u>(0.57)%</u>
Employer Normal Cost Rate	18.92%	18.97%	6.51%	4.82%
Administrative Expenses	0.57%	0.44%	0.15%	0.11%
Amortization Cost	<u>65.90%</u>	<u>46.38%</u>	<u>(2.98)%</u>	<u>(2.62)%</u>
Total Actuarially Determined Rate	85.39%	65.79%	3.68%	2.31%
Actuarial Accrued Liability (AAL)	\$1,067	\$1,092	\$233	\$244
Actuarial Value of Assets	<u>\$560</u>	<u>\$590</u>	<u>\$234</u>	<u>\$245</u>
Unfunded AAL	\$507	\$502	\$(1)	\$(1)
Funded Ratio	52.5%	54.0%	100.6%	100.5%



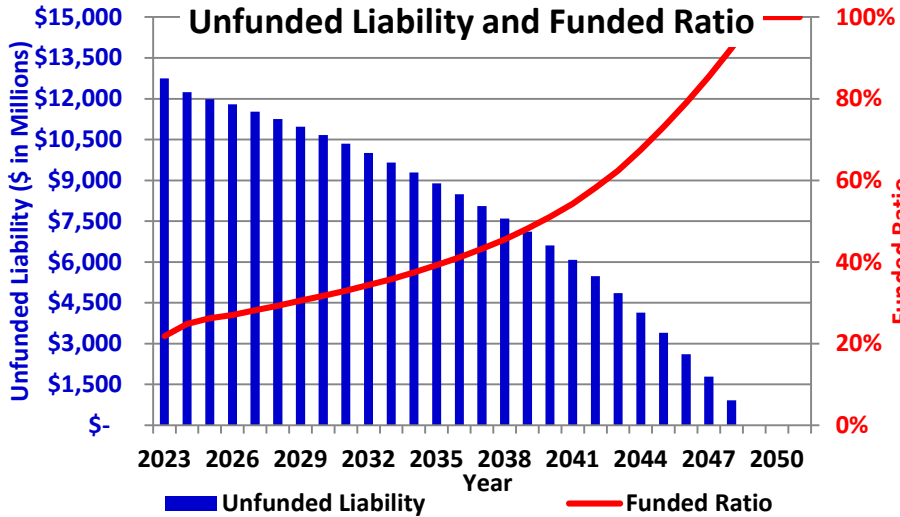
PROJECTION INFORMATION PENSION AND INSURANCE

Projection Assumptions

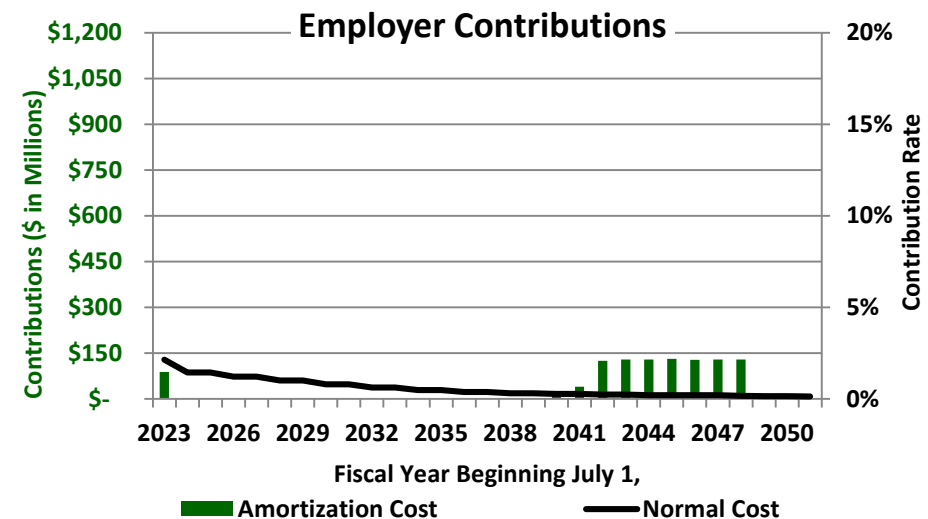
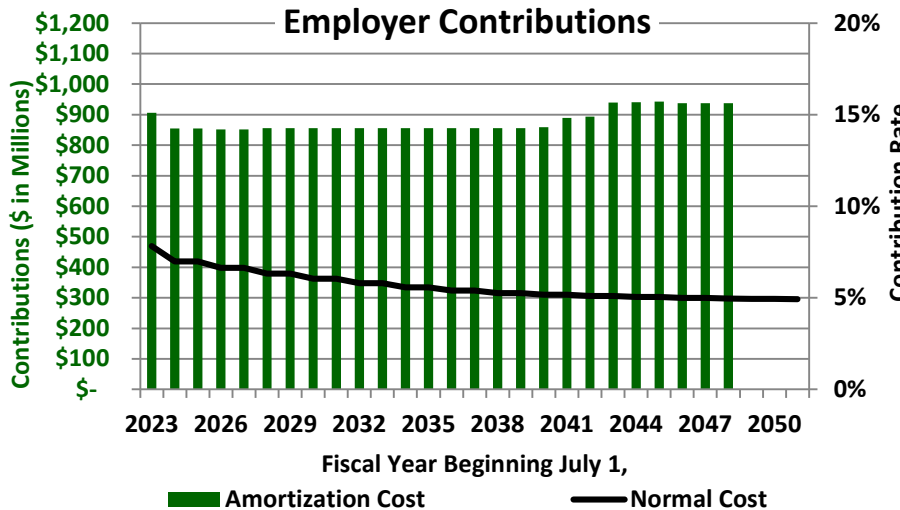
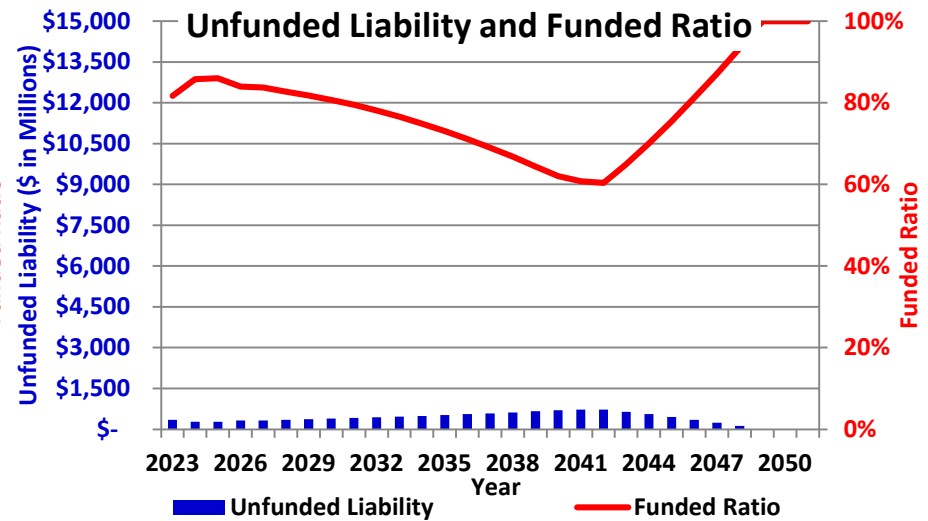
- Assumes that all actuarial assumptions are realized, including the assumed annual asset return of 5.25%/6.25%/6.50%
- Full actuarially determined contribution paid each biennium
- Membership payroll assumed to remain level
 - Total active population assumed to decrease 2% each year

KERS Non-Hazardous Projection

Pension

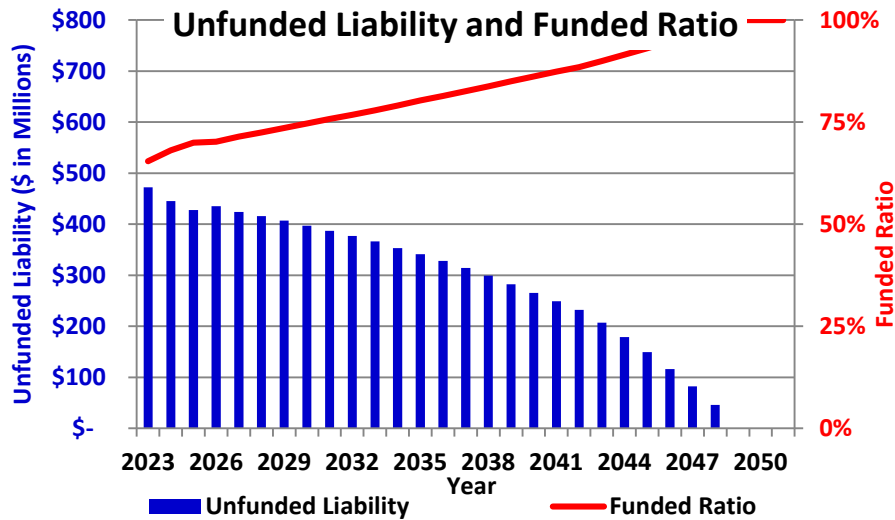


Insurance

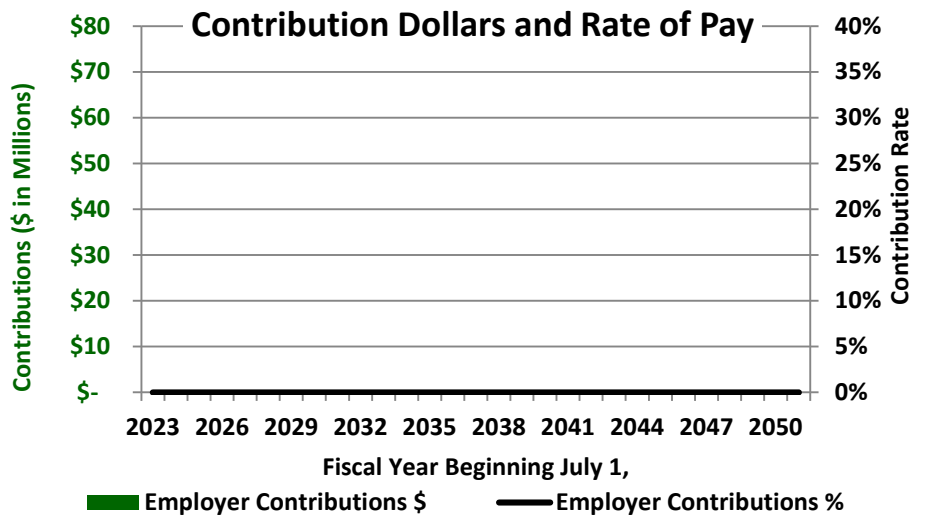
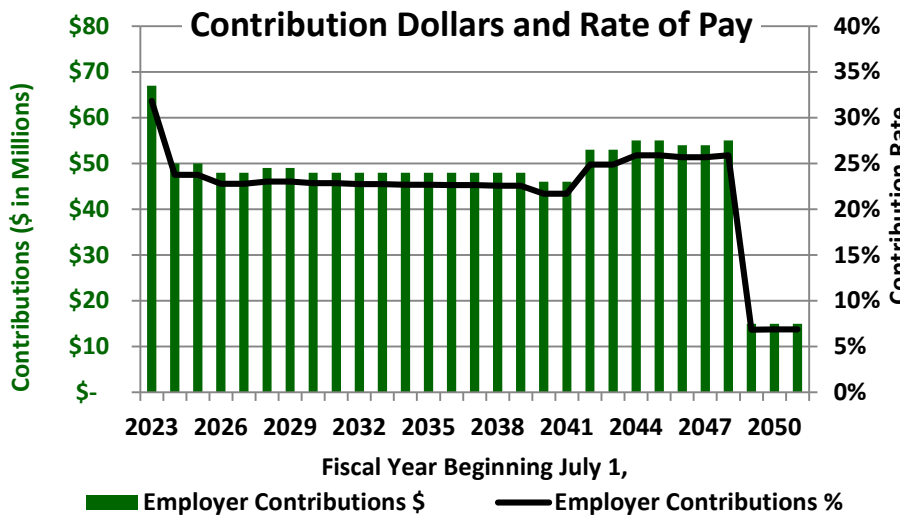
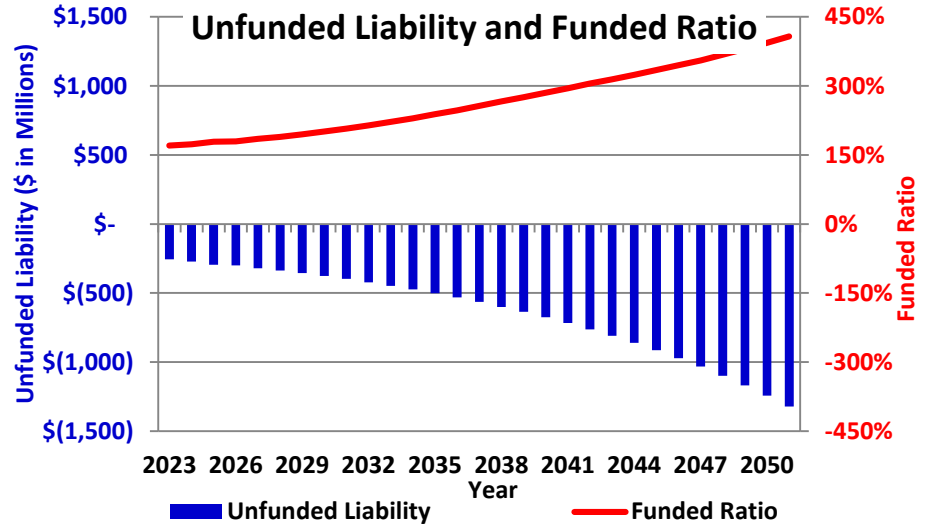


KERS Hazardous Projection

Pension

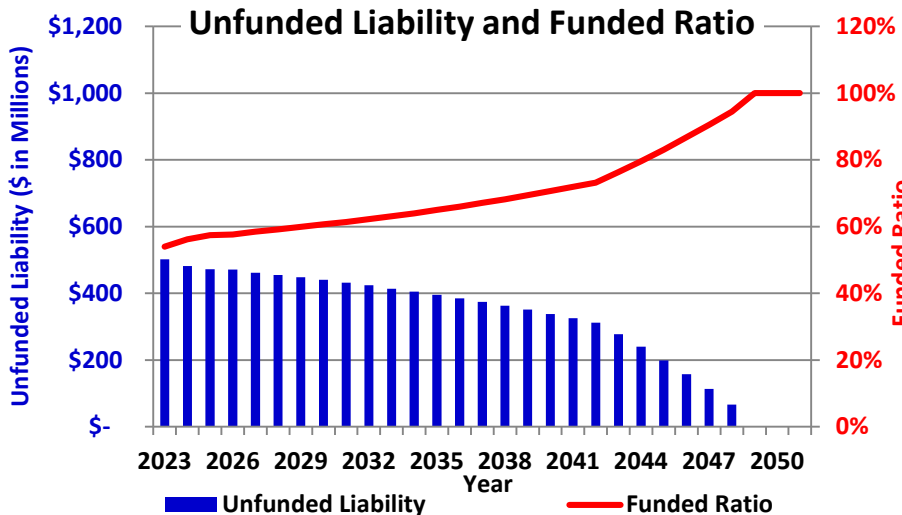


Insurance

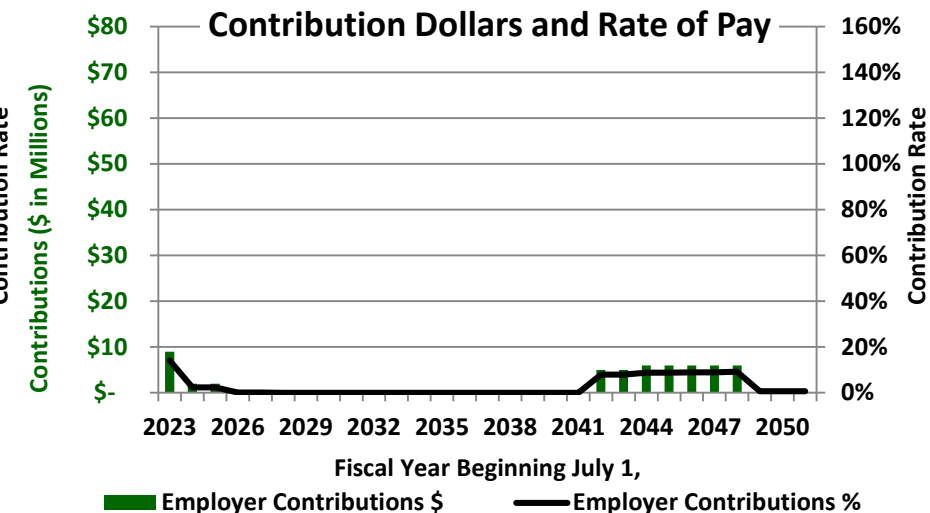
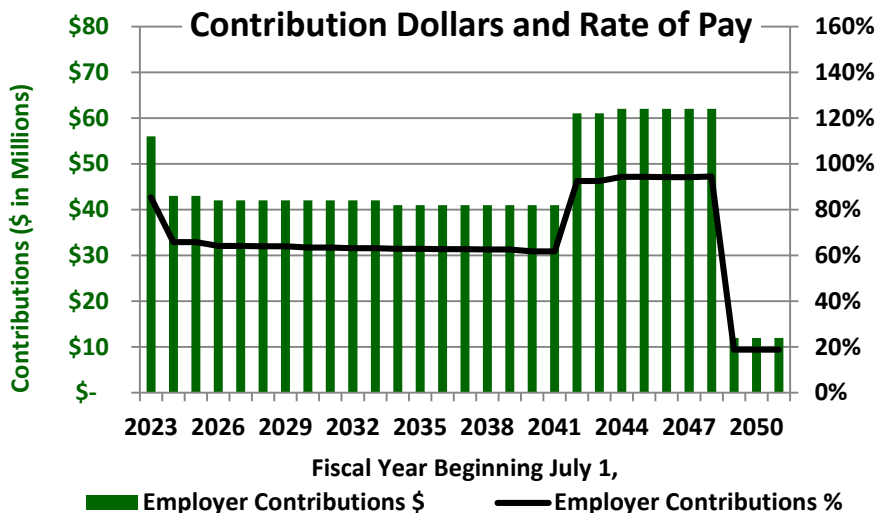
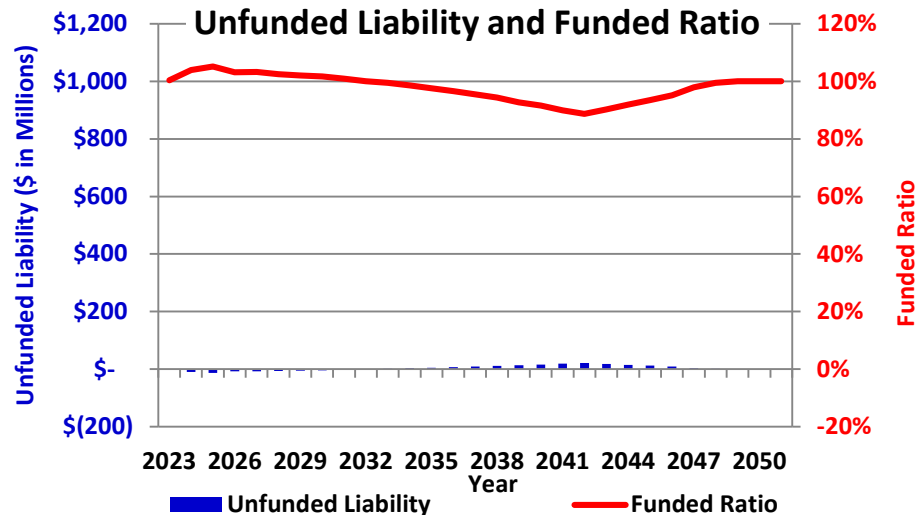


SPRS Projection

Pension



Insurance



Closing Comments on 2023 Valuation Results

- It is imperative the State and participating employers continue contributing the actuarially determined contributions in each future year to improve the System's financial security
- The increase in active members and payroll is a positive signal to the financial wellbeing of the System and the participating employers

Disclaimers

- This presentation is intended to be used in conjunction with the actuarial valuation as of June 30, 2023. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.