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Kentucky Public Pensions Authority

Public Pension Oversight Board

November 19, 2024

Actuarial Valuation Updates

Ryan Barrow, Executive Director

Rebecca Adkins, Deputy Executive Director



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Overview

- ❖ **The Annual Actuary Cycle**
- ❖ **2049 Actuary Target & Valuation Highlights**
- ❖ **Comments from the Actuary (GRS)**
- ❖ **Discussion – 2024 Drivers of Performance**
 - **Active Membership Count**
 - **Active Membership Payroll**
 - **Retired Members**
 - **Retired Distributions**
- ❖ **Funding Results and Contribution Rates**



<u>Period</u>	<u>Action</u>
May – June	Boards approve assumptions
July – November	Actuary prepares the valuations <ul style="list-style-type: none">• Sensitivity Studies• 30-year Projections
<i>November</i>	<i>Valuations provided to the Boards, LRC & PPOB</i>
December	Boards approve the employer contribution rates <ul style="list-style-type: none">• CERS every year• KRS odd years
July 1	New contribution rates go into effect



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Actuarial Target

Long-term commitment

Unfunded liabilities are amortized over a 30-year closed period, 2019 to 2049. There are 25 years to go to be fully funded.





❖ Improved Funding Ratios

- PENSION: All five funds have improved in funded status
- INSURANCE: Four of the five insurance funds are fully funded
 - Funding ratios in the insurance fund are more volatile than the pension fund
 - Anticipated losses due to the Inflation Reduction Act – (Discussed 10.22.24 PPOB) were lessened by non-Medicare premiums being lower than anticipated

❖ Supplemental state appropriations to Kentucky Retirement Systems are directly impactful

- Over the Biennium \$650 million (FY25 and FY26) \$480 million (FY23 and FY24)
 - KERS NH \$300 million each year \$240 million in each year
 - SPRS \$25 million each year



❖ **Investments Outperformed our Assumed Rate of Return – (Discussed at 08.27.24 PPOB)**

- Across all Pension and Investment Funds
- Not the same as below – due to “smoothing”

❖ **FY24 Actuary Investment Experience - gains recognized this year**

• **CERS**

- Return 11%
- Assumed rate 6.5%

• **KRS**

- Return 9% - 11% (varies by fund)
- Assumed rate
 - KERS NH, SPRS 5.25%
 - KERS H 6.25%
 - Insurance 6.50%



❖ Increase in Active Membership Payroll FY23 to FY24

- CERS NH 8%
- CERS Haz 10%
- KERS NH 15%
- KERS Haz 23%
- SPRS 11%

❖ Fund Liability Increases

- Pension:

- CERS \$284M
- KRS \$434M

Primarily attributed to salary increases for active members exceeding assumptions

- Insurance:

- CERS \$254M
- KRS \$160M

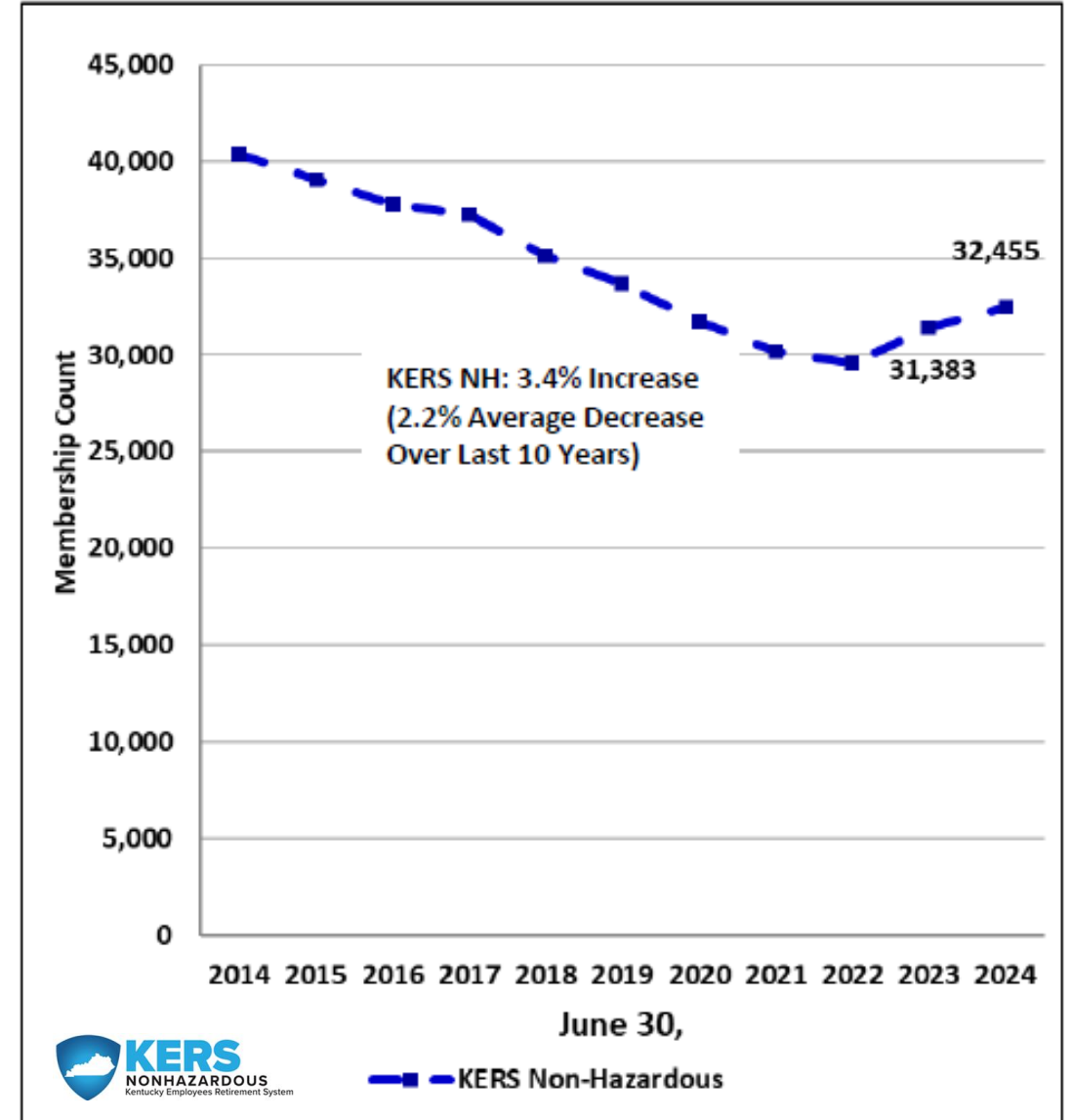
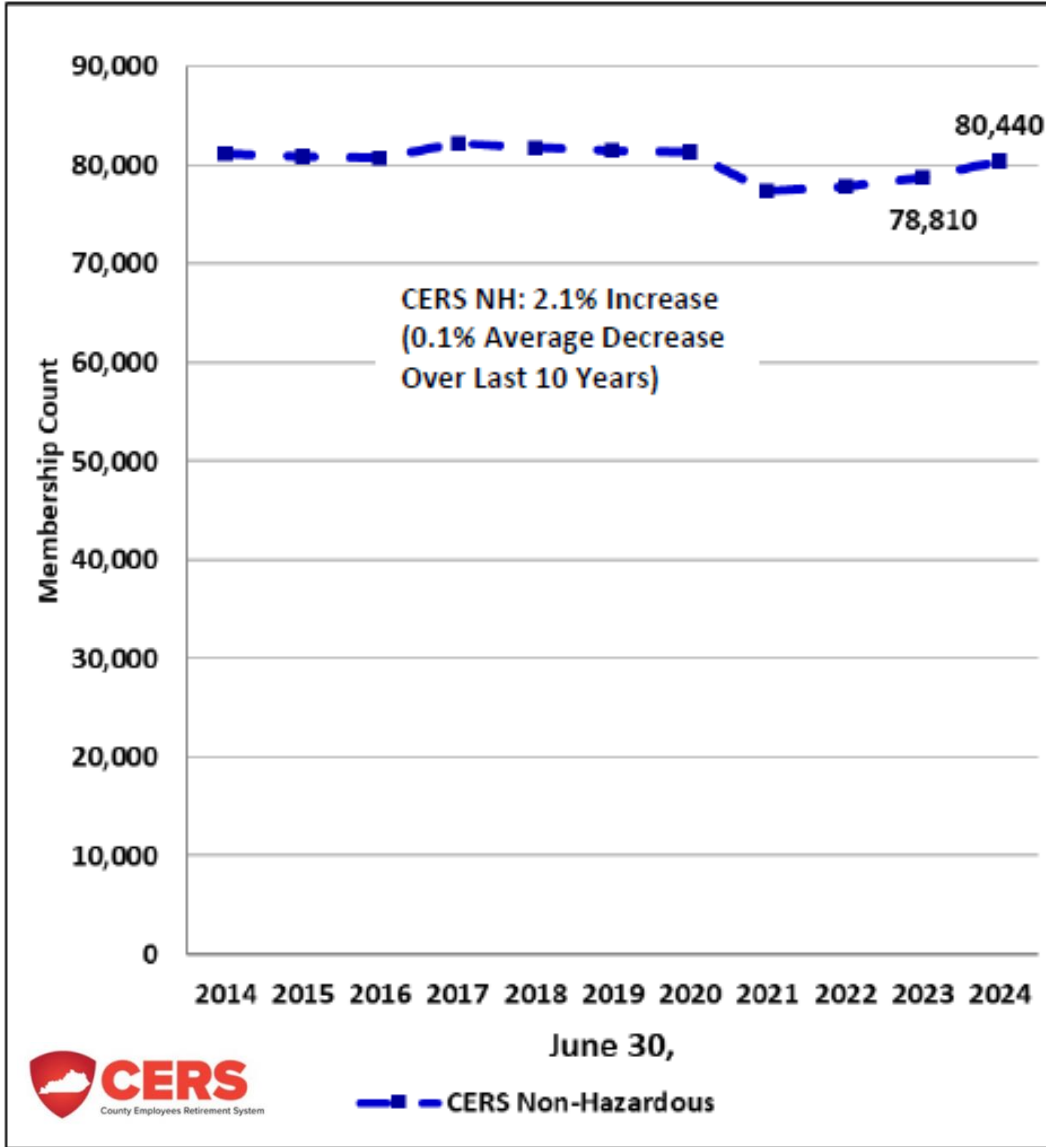
Primarily attributed to Medicare premiums significantly higher than expected



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Active Membership Count

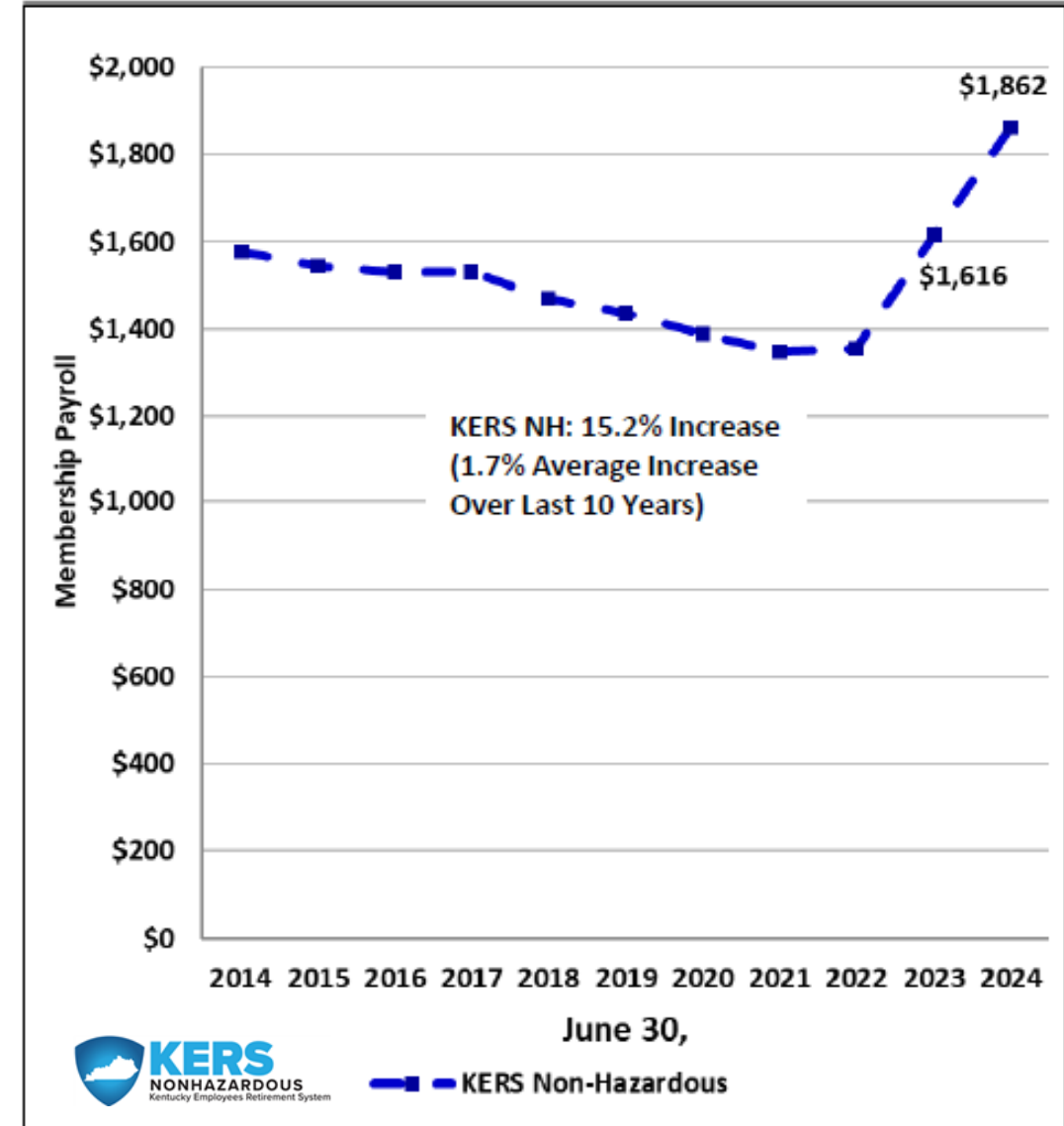
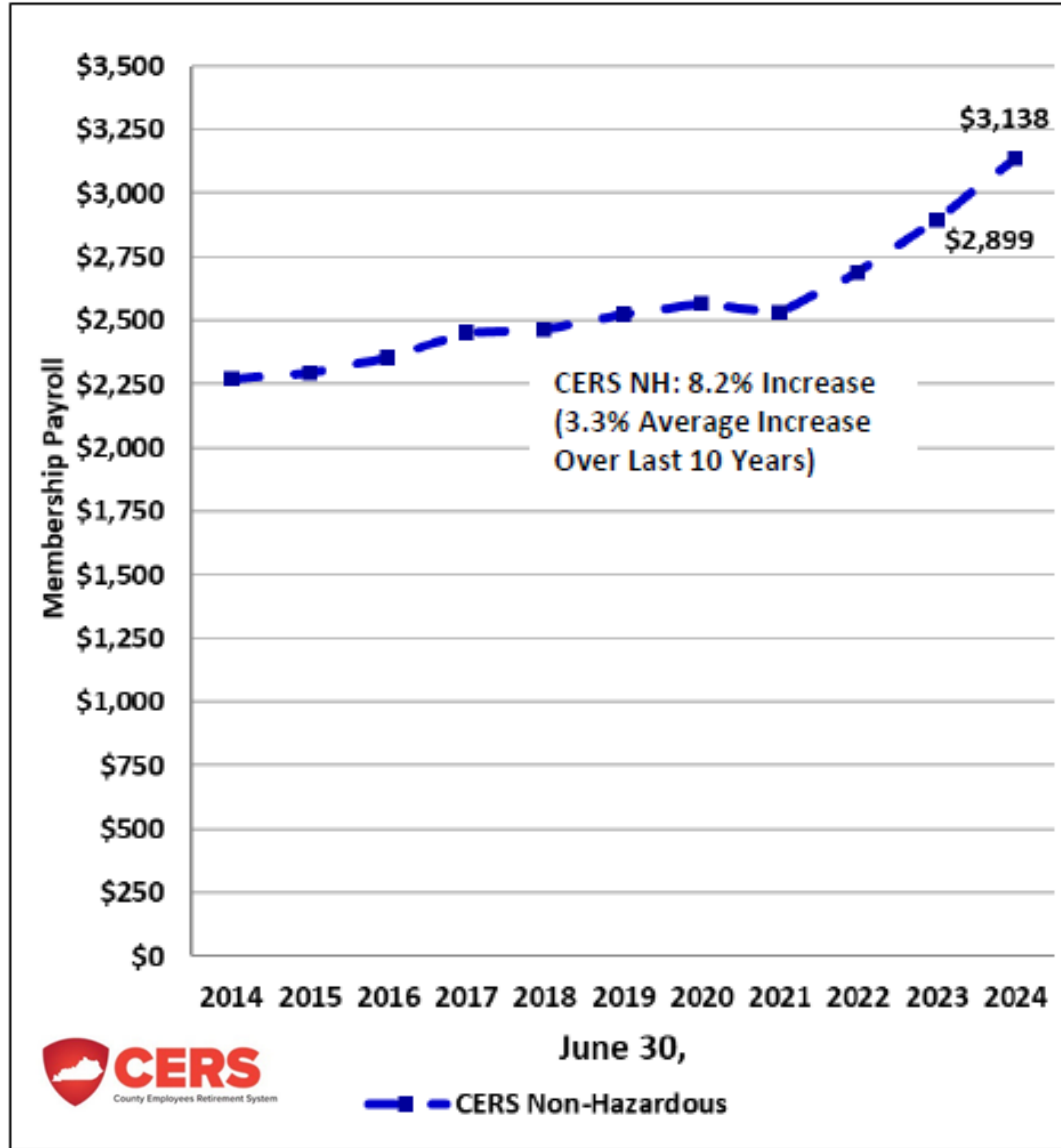




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Membership Payroll (\$ in Millions)

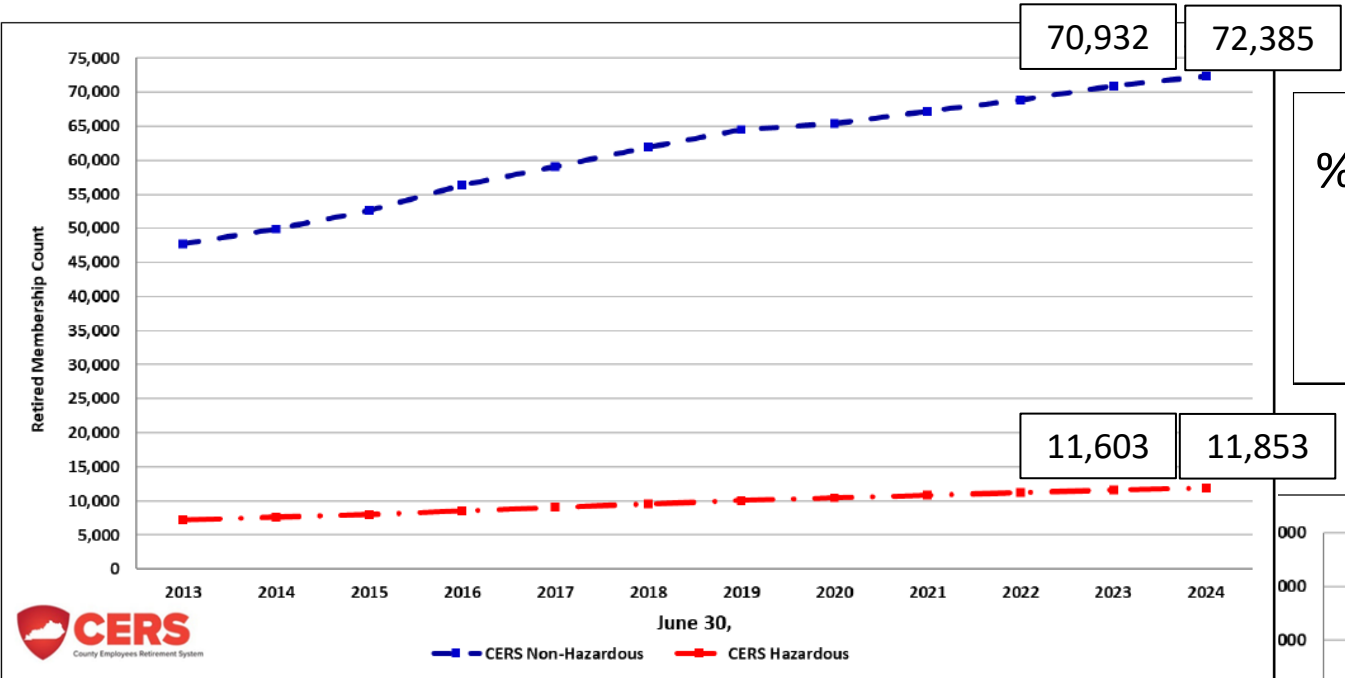




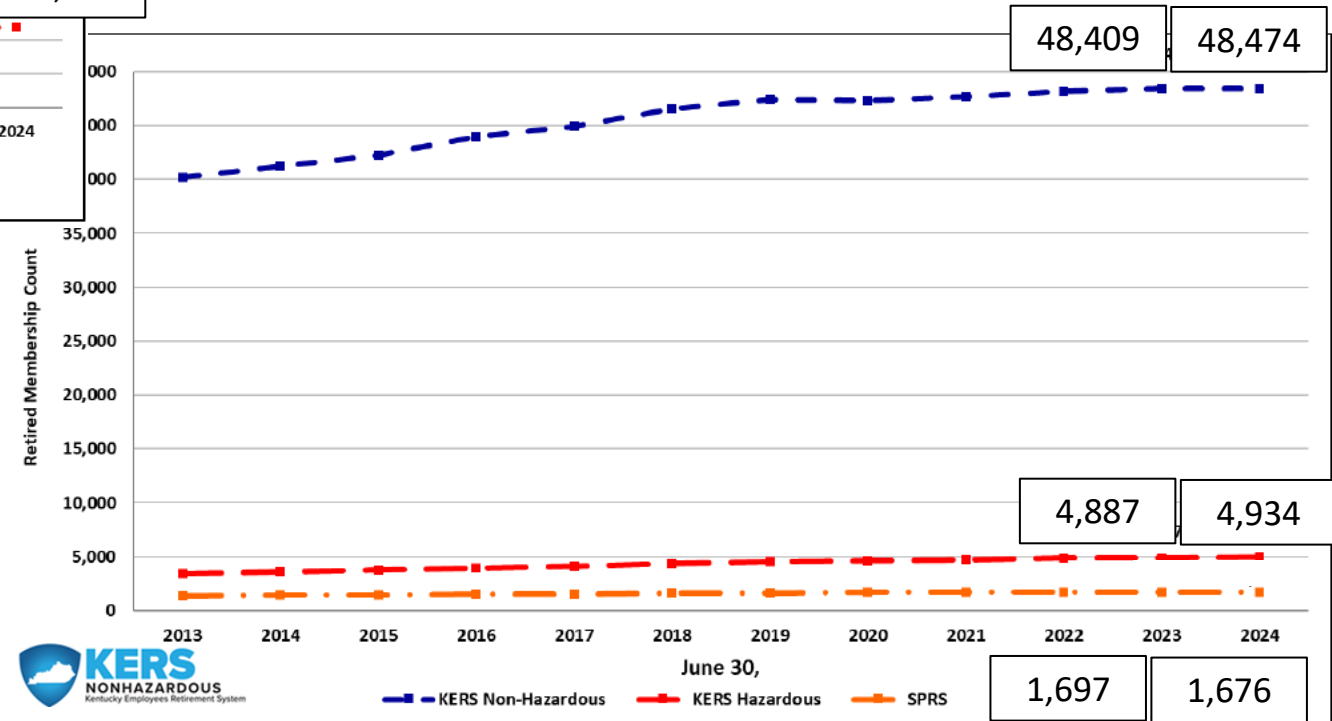
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Retired Membership Count



% Change FY23 to FY24	CERS NONHAZ	CERS HAZ
	2.05%	2.15%



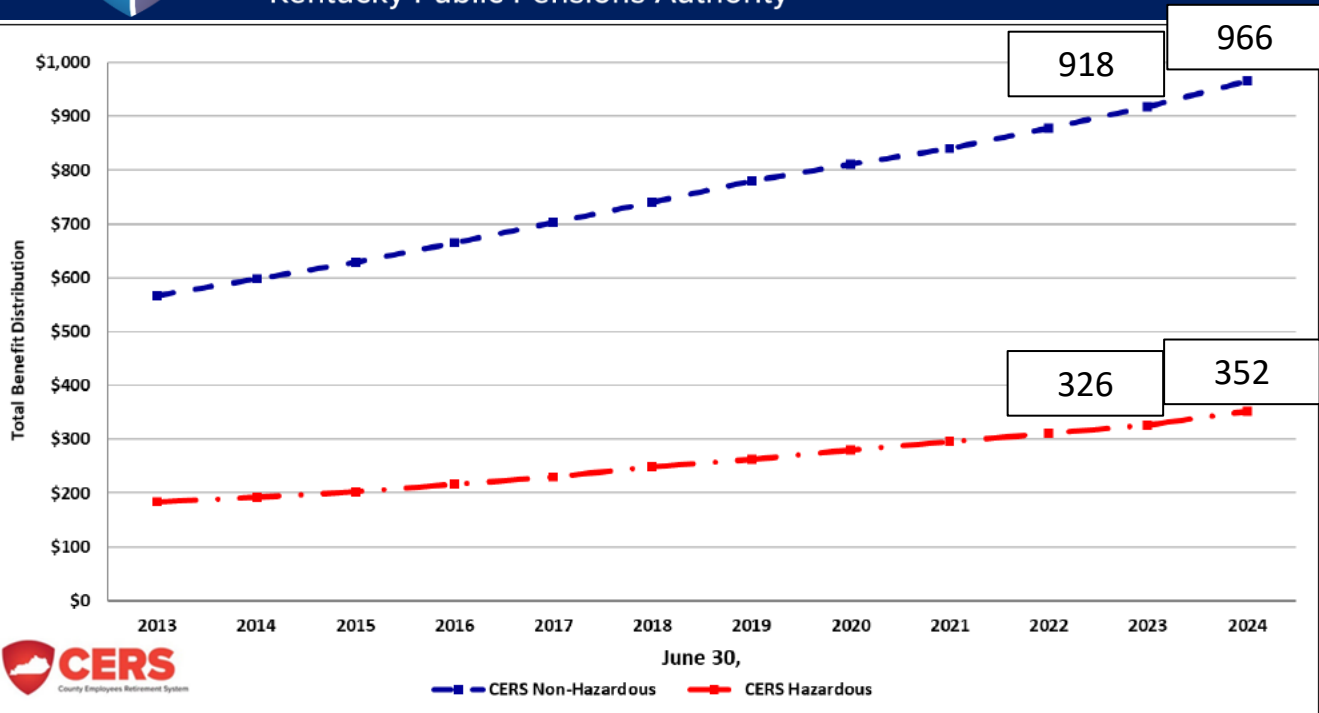
% Change FY23 to FY24	KERS NONHAZ	KERS HAZ	SPRS
	0.13%	0.96%	-1.24%



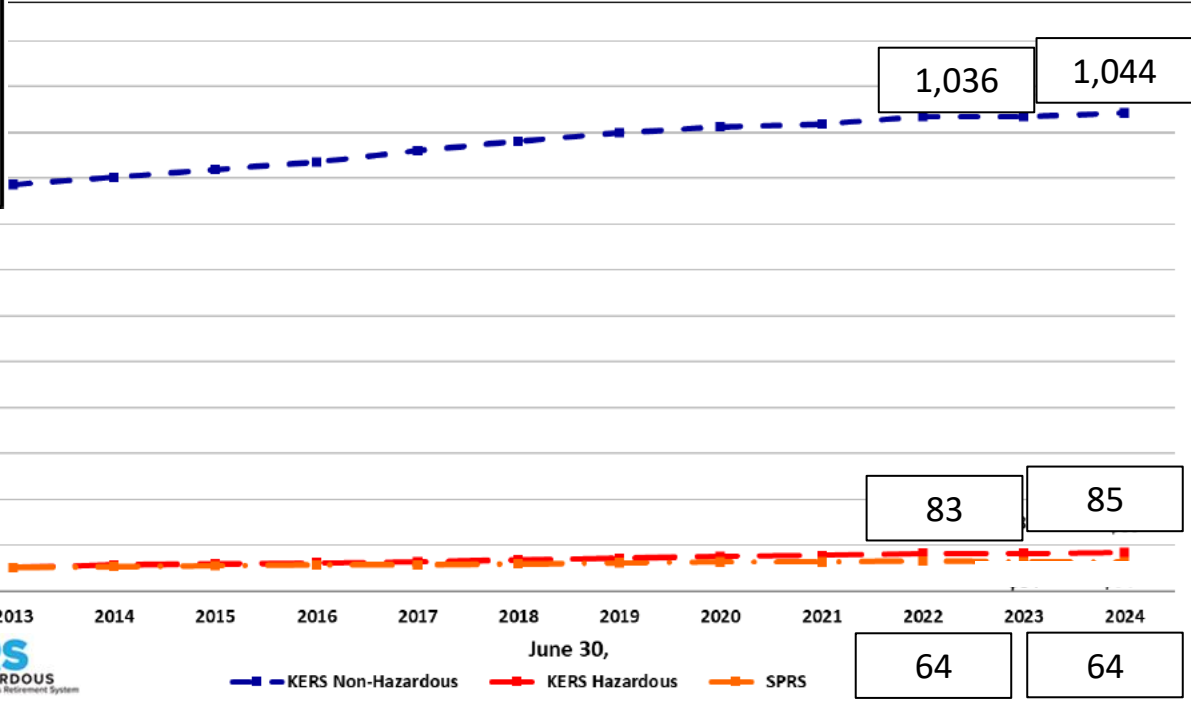
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Pension Benefit Distributions (\$ in Millions)



% Change FY23 to FY24	CERS NONHAZ	CERS HAZ
	5.23%	7.98%




% Change FY23 to FY24	KERS NONHAZ	KERS HAZ	SPRS
	0.77%	2.41%	0%



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CERS Funding Results


	Non-Hazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
	2023	2024	2023	2024	2023	2024	2023	2024
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	9.46%	9.37%	2.35%	2.15%	17.46%	17.17%	3.77%	3.40%
Member Rate	<u>(5.00)%</u>	<u>(5.00)%</u>	<u>(0.63)%</u>	<u>(0.67)%</u>	<u>(8.00)%</u>	<u>(8.00)%</u>	<u>(0.64)%</u>	<u>(0.69)%</u>
Employer Normal Cost Rate	4.46%	4.37%	1.72%	1.48%	9.46%	9.17%	3.13%	2.71%
Administrative Expenses	0.83%	0.85%	0.03%	0.03%	0.31%	0.31%	0.08%	0.07%
Amortization Cost	<u>14.42%</u>	<u>13.40%</u>	<u>(2.85)%</u>	<u>(2.37)%</u>	<u>26.72%</u>	<u>24.52%</u>	<u>(1.09)%</u>	<u>(1.05)%</u>
Total Actuarially Determined Rate	19.71%	18.62%	0.00%	0.00%	36.49%	34.00%	2.12%	1.73%
Actuarial Accrued Liability (AAL)	\$15,296	\$15,776	\$2,560	\$2,901	\$5,850	\$6,070	\$1,604	\$1,668
Actuarial Value of Assets	<u>\$8,585</u>	<u>\$9,212</u>	<u>\$3,366</u>	<u>\$3,549</u>	<u>\$3,008</u>	<u>\$3,280</u>	<u>\$1,615</u>	<u>\$1,676</u>
Unfunded AAL	\$6,711	\$6,565	\$(806)	\$(648)	\$2,842	\$2,791	\$(11)	\$(8)
Funded Ratio	56.1%	58.4%	131.5%	122.3%	51.4%	54.0%	100.7%	100.5%



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KERS Funding Results


	Non-Hazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
	2023	2024	2023	2024	2023	2024	2023	2024
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	11.13%	11.09%	1.94%	1.68%	15.00%	14.96%	2.77%	2.29%
Member Rate	<u>(5.00)%</u>	<u>(5.00)%</u>	<u>(0.54)%</u>	<u>(0.58)%</u>	<u>(8.00)%</u>	<u>(8.00)%</u>	<u>(0.75)%</u>	<u>(0.79)%</u>
Employer Normal Cost Rate	6.13%	6.09%	1.40%	1.10%	7.00%	6.96%	2.02%	1.50%
Administrative Expenses	0.86%	0.76%	0.05%	0.04%	0.71%	0.61%	0.06%	0.05%
Amortization Cost	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>16.03%</u>	<u>13.11%</u>	<u>(11.29)%</u>	<u>(10.07)%</u>
Total Actuarially Determined Rate	6.99%	6.85%	1.45%	1.14%	23.74%	20.68%	0.00%	0.00%
Amortization Cost to be Allocated	\$ 855M	\$ 854M	\$ 2M	\$ 12M	N/A	N/A	N/A	N/A
Actuarial Accrued Liability (AAL)	\$16,304	\$16,648	\$1,877	\$2,095	\$1,363	\$1,443	\$364	\$380
Actuarial Value of Assets	<u>\$3,552</u>	<u>\$4,122</u>	<u>\$1,533</u>	<u>\$1,712</u>	<u>\$891</u>	<u>\$985</u>	<u>\$620</u>	<u>\$652</u>
Unfunded AAL	<u>\$12,752</u>	<u>\$12,526</u>	<u>\$344</u>	<u>\$383</u>	<u>\$472</u>	<u>\$458</u>	<u>\$(256)</u>	<u>\$(273)</u>
Funded Ratio	21.8%	24.8%	81.7%	81.7%	65.4%	68.3%	170.4%	171.9%



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SPRS Funding Results

	Pension		Insurance	
	2023	2024	2023	2024
(1)	(2)	(3)	(4)	(5)
Total Normal Cost Rate	26.97%	27.33%	5.39%	4.96%
Member Rate	<u>(8.00)%</u>	<u>(8.00)%</u>	<u>(0.57)%</u>	<u>(0.60)%</u>
Employer Normal Cost Rate	18.97%	19.33%	4.82%	4.36%
Administrative Expenses	0.44%	0.43%	0.11%	0.10%
Amortization Cost	<u>46.38%</u>	<u>38.15%</u>	<u>(2.62)%</u>	<u>(3.00)%</u>
Total Actuarially Determined Rate	65.79%	57.91%	2.31%	1.46%
Actuarial Accrued Liability (AAL)	\$1,092	\$1,112	\$244	\$251
Actuarial Value of Assets	<u>\$590</u>	<u>\$631</u>	<u>\$245</u>	<u>\$263</u>
Unfunded AAL	\$502	\$481	\$(1)	\$(12)
Funded Ratio	54.0%	56.7%	100.5%	104.9%

Appendix



Historical Actuarial Information

		Pension				
		2020	2021	2022	2023	2024
CERS NONHAZ	UL \$ B	\$7.390	\$7.179	\$7.525	\$6.711	\$6.565
	Funding %	49.4%	51.8%	52.0%	56.1%	58.4%
CERS HAZ	UL \$ B	\$2.983	\$3.001	\$3.073	\$2.842	\$2.791
	Funding %	45.1%	46.7%	47.6%	51.4%	54.0%
KERS NONHAZ	UL \$ B	\$14.026	\$13.585	\$13.511	\$12.752	\$12.526
	Funding %	14.2%	16.8%	18.5%	21.8%	24.8%
KERS HAZ	UL \$ B	\$0.574	\$0.513	\$0.484	\$0.472	\$0.458
	Funding %	55.3%	60.4%	63.2%	65.4%	68.3%
SPRS	UL \$ B	\$0.757	\$0.730	\$0.507	\$0.502	\$0.481
	Funding %	28.1%	30.7%	52.5%	54.0%	56.7%

		Retiree Health				
		2020	2021	2022	2023	2024
CERS NONHAZ	UL \$ B	\$0.731	\$0.503	(\$0.768)	(\$0.806)	(\$0.648)
	Funding %	78.5%	85.4%	132.1%	131.5%	122.3%
CERS HAZ	UL \$ B	\$0.379	\$0.276	(\$0.016)	(\$0.011)	(\$0.008)
	Funding %	78.2%	84.3%	101.0%	100.7%	100.5%
KERS NONHAZ	UL \$ B	\$1.469	\$1.283	\$0.373	\$0.344	\$0.383
	Funding %	42.7%	50.2%	79.1%	81.7%	81.7%
KERS HAZ	UL \$ B	(\$0.111)	(\$0.151)	(\$0.251)	(\$0.256)	(\$0.273)
	Funding %	126.0%	135.5%	172.2%	170.4%	171.9%
SPRS	UL \$ B	\$0.069	\$0.049	(\$0.001)	(\$0.001)	(\$0.012)
	Funding %	75.0%	82.0%	100.6%	100.5%	104.9%



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Historical Employer Contribution Rates and Cost

		2019	2020	2021	2022	2023	2024	Projected 2025	Projected 2026
CERS NONHAZ	Rate %	21.48%	24.06%	24.06%	26.95%	26.79%	23.34%	19.71%	18.62%
	Cost \$ M	\$529	\$600	\$597	\$725	\$799	\$654	\$583*	\$596*
CERS HAZ	Rate %	35.34%	39.58%	39.58%	44.33%	49.59%	43.69%	38.61%	35.73%
	Cost \$ M	\$199	\$225	\$231	\$280	\$357	\$320	\$267*	\$271*
KERS NONHAZ	Rate %	83.43%	83.43%	84.43%	10.10%	9.97%	9.97%	8.44%	8.44%
	Cost \$ M	\$1,112	\$1,119	\$1,112	\$173	\$172	\$188	\$136*	\$158*
	AALC	na	na	na	\$1,014	\$986	\$994	\$857	\$857
	GF Appro	\$75.90	-	-	-	\$240.00	\$240.00	\$300.00	\$300.00
KERS HAZ	Rate %	36.85%	36.85%	36.00%	33.43%	31.82%	31.82%	23.74%	23.74%
	Cost \$ M	\$59	\$64	\$62	\$59	\$73	\$87	\$50*	\$54*
SPRS	Rate %	146.28%	146.28%	143.48%	146.06%	99.43%	99.43%	68.10%	68.10%
	Cost \$ M	\$72	\$72	\$69	\$71	\$67	\$72	\$45*	\$43*
	GF Appro	\$1.10	\$1.10	\$0.40	\$215.00	-	-	\$25.00	\$25.00


*Projected cost are calculated using current salaries and approved rates for KERS and SPRS for FY25 and FY26 and GRS recommended rates for FY26 for CERS.



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CERS Employer Contribution Rates

	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	19.71%	18.62%	36.49%	34.00%
Insurance Fund	<u>0.00%</u>	<u>0.00%</u>	<u>2.12%</u>	<u>1.73%</u>
Actuarially Determined Contribution Rate, payable as a percentage of payroll	19.71%	18.62%	38.61%	35.73%
Difference		-1.09%		-2.88%

Note: 2023 Valuation set the contribution rates for FYE2025.


2024 Valuation will be used to set the contribution rates for FYE2026.



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CERS Employer Contributions in millions

	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	\$583	\$596	\$252	\$258
Insurance Fund	<u>0</u>	<u>0</u>	<u>15</u>	<u>13</u>
Total Actuarially Determined Employer Contribution	\$583	\$596	\$267	\$271
Change in Actuarially Determined Employer Contribution		\$13		\$4

Note: 2023 Valuation set the contribution rates for FYE2025.


2024 Valuation will be used to set the contribution rates for FYE2026.



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KRS Employer Contribution Rates

	KERS Non-Hazardous		KERS Hazardous		SPRS	
	2023 Val	2024 Val	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pension Fund	6.99%	6.85%	23.74%	20.68%	65.79%	57.91%
Insurance Fund	<u>1.45%</u>	<u>1.14%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>2.31%</u>	<u>1.46%</u>
Actuarially Determined Contribution, payable as a percentage of payroll	8.44%	7.99%	23.74%	20.68%	68.10%	59.37%
Difference		-0.45%		-3.06%		-8.73%
Amortization Cost – Pension	\$ 855M	\$ 854M				
Amortization Cost – Insurance	<u>2M</u>	<u>12M</u>				
Amortization Cost - Total	\$ 857M	\$ 866M	N/A	N/A	N/A	N/A
Difference		\$9				


Note: The 2023 valuation establishes the contribution requirement for FYE2025 and FYE2026.
The 2024 valuation was provided for informational purposes only.



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KRS Employer Contributions in millions

	KERS Non-Hazardous		KERS Hazardous		SPRS	
	2023 Val	2024 Val	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)	(4)	(5)
Pension Fund	\$968	\$981	\$50	\$54	\$43	\$42
Insurance Fund	<u>25</u>	<u>34</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>1</u>
Total Actuarially Determined Employer Contribution	\$993	\$1,015	\$50	\$54	\$45	\$43
Change in Actuarially Determined Employer Contribution		\$22		\$4		\$(2)

Note: The 2023 valuation establishes the contribution requirement for FYE2025 and FYE2026.

The 2024 valuation was provided for informational purposes only.