

# Kentucky Employees Retirement System

GASB No. 67 Accounting Valuation Report  
As of June 30, 2024





December 5, 2024

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

**Re: GASB 67 Reporting – Actuarial Information – Kentucky Employees Retirement System**

Dear Members of the Board:

This report provided herein contains certain information for the **Kentucky Employees Retirement System (KERS)** in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67, “Financial Reporting for Pension Plans” for the fiscal year ending June 30, 2024. A separate report will be provided at a later date with additional accounting information determined in accordance with GASB Statement No. 68, “Accounting and Financial Reporting for Pensions”.

The liability calculations presented in this report were performed for the purpose of satisfying the requirements of GASB No. 67 and are not applicable for other purposes, such as determining the plan’s funding requirements. The plan’s liability for other purposes may produce significantly different results. This report may be provided to parties other than the Board of Trustees of the Kentucky Retirement Systems only in its entirety and only with the permission of the Board.

The total pension liability, net pension liability, and sensitivity information shown in this report are based on an actuarial valuation date of June 30, 2023. The total pension liability was rolled-forward from the valuation date to the plan’s fiscal year ending June 30, 2024 using generally accepted actuarial principles. GASB 67 requires the disclosure of a 10-year history of certain information in the Required Supplementary Information within the annual financial report. Information disclosed for years prior to June 30, 2017 were prepared by the prior actuary.

**Actuarial Assumptions and Plan Provisions**

There have been no assumption, method or plan provision changes that would materially impact the total pension liability since June 30, 2023. It is our opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB No. 67.

### **Single Discount Rate**

Single discount rates of 5.25% for the non-hazardous plan and 6.25% for the hazardous plan were used to measure the total pension liability for the fiscal year ending June 30, 2024. This single discount rate was based on the expected rate of return on pension plan investments for each plan. Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the pension plan's fiduciary net position and future contributions were projected to be sufficient to finance all the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of the projected benefit payments to determine the total pension liability for each plan.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

### **401(h) Subaccount**

Based on guidance issued by GASB in connection with GASB Statement No. 74, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered an OPEB asset. As a result, the reported fiduciary net positions as of June 30, 2017 and later are net of the 401(h) asset balance.

### **Additional Disclosures**

This report is based upon information, furnished to us by the Kentucky Public Pensions Authority (KPPA), which includes benefit provisions, membership information, and financial data. We did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2023" for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ending June 30, 2024.



To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. White and Ms. Shaw are Enrolled Actuaries. All of the undersigned are members of the American Academy of Actuaries and meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. In addition, all three are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

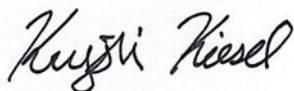
**Gabriel Roeder Smith & Co.**



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



Krysti Kiesel, ASA, MAAA  
Consultant and Actuary



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## SECTION 1

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## EXHIBIT 1a

### Schedule of the Employers' Net Pension Liability – KERS Non-Hazardous Plan (\$ in thousands)

Fiscal Year Ending June 30, (1)	Total Pension Liability (2)	Plan Fiduciary Net Position (3)	Employers' Net Pension Liability (Asset) (4) = (2) - (3)	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (5) = (3) / (2)	Covered Employee Payroll <sup>1</sup> (6)	Net Pension Liability as a Percentage of Covered Employee Payroll (7) = (4) / (6)
2024	\$ 16,273,602	\$ 4,223,936	\$ 12,049,666	25.96%	\$ 1,912,421	630.07%
2023	15,858,669	3,539,943	12,318,726	22.32%	1,648,318	747.35%
2022	16,281,188	3,013,845	13,267,343	18.51%	1,432,960	925.87%
2021	16,335,657	3,018,660	13,316,997	18.48%	1,441,337	923.93%
2020	16,472,733	2,308,080	14,164,653	14.01%	1,476,156	959.56%
2019	16,356,674	2,233,672	14,123,002	13.66%	1,485,854	950.50%
2018	15,608,221	2,004,446	13,603,775	12.84%	1,509,955	900.94%
2017	15,445,206	2,056,870	13,388,336	13.32%	1,602,396	835.52%
2016	13,379,781	1,980,292	11,399,489	14.80%	1,631,025	698.92%
2015	12,359,673	2,327,783	10,031,890	18.83%	1,544,234	649.64%

Note:

<sup>1</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.



## EXHIBIT 1b

### Schedule of the Employers' Net Pension Liability – KERS Hazardous Plan (\$ in thousands)

Fiscal Year Ending June 30,		Total Pension Liability		Plan Fiduciary Net Position		Employers' Net Pension Liability (Asset)		Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		Covered Employee Payroll <sup>1</sup>		Net Pension Liability as a Percentage of Covered Employee Payroll
(1)		(2)		(3)		(4) = (2) - (3)		(5) = (3) / (2)		(6)		(7) = (4) / (6)
2024	\$	1,393,651	\$	1,019,890	\$	373,761		73.18%		\$ 279,218		133.86%
2023		1,316,521		893,533		422,988		67.87%		223,922		188.90%
2022		1,318,494		810,978		507,516		61.51%		188,648		269.03%
2021		1,311,767		866,140		445,627		66.03%		172,725		258.00%
2020		1,251,027		690,350		560,677		55.18%		171,840		326.28%
2019		1,227,226		680,932		546,294		55.49%		160,600		340.16%
2018		1,150,610		645,485		505,125		56.10%		152,936		330.29%
2017		1,098,630		601,529		497,101		54.75%		178,511		278.47%
2016		919,517		527,879		391,638		57.41%		158,828		246.58%
2015		895,433		552,468		342,965		61.70%		128,680		266.53%

Note:

<sup>1</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.





## EXHIBIT 2a

### Schedule of the Employers' Net Pension Liability – KERS Non-Hazardous Plan (\$ in thousands)

Change in the Net Pension Liability	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>										
Service Cost	\$ 184,567	\$ 163,563	\$ 165,616	\$ 171,472	\$ 179,702	\$ 184,988	\$ 195,681	\$ 143,858	\$ 139,631	\$ 143,847
Interest	805,180	827,579	830,440	838,084	832,178	793,163	785,123	870,725	891,897	859,509
Benefit Changes	0	2,024	0	2,091	0	0	9,624	0	0	0
Difference between actual and expected experience	469,003	310,954	(15,034)	(130,268)	115,515	70,529	153,565	(134,379)	0	30,958
Assumption Changes	0	(691,088)	0	0	0	700,464	0	2,145,530	923,999	694,592
Benefit Payments	(1,043,817)	(1,035,551)	(1,035,491)	(1,018,455)	(1,011,336)	(1,000,691)	(980,978)	(960,309)	(935,419)	(919,343)
<b>Net Change in Total Pension Liability</b>	<b>\$ 414,933</b>	<b>\$ (422,519)</b>	<b>\$ (54,469)</b>	<b>\$ (137,076)</b>	<b>\$ 116,059</b>	<b>\$ 748,453</b>	<b>\$ 163,015</b>	<b>\$ 2,065,425</b>	<b>\$ 1,020,108</b>	<b>\$ 809,563</b>
<b>Total Pension Liability - Beginning</b>	<b>\$ 15,858,669</b>	<b>\$ 16,281,188</b>	<b>\$ 16,335,657</b>	<b>\$ 16,472,733</b>	<b>\$ 16,356,674</b>	<b>\$ 15,608,221</b>	<b>\$ 15,445,206</b>	<b>\$ 13,379,781</b>	<b>\$ 12,359,673</b>	<b>\$ 11,550,110</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 16,273,602</b>	<b>\$ 15,858,669</b>	<b>\$ 16,281,188</b>	<b>\$ 16,335,657</b>	<b>\$ 16,472,733</b>	<b>\$ 16,356,674</b>	<b>\$ 15,608,221</b>	<b>\$ 15,445,206</b>	<b>\$ 13,379,781</b>	<b>\$ 12,359,673</b>
<b>Plan Fiduciary Net Position<sup>1</sup></b>										
Contributions - Employer	\$ 1,295,695	\$ 1,275,007	\$ 1,116,869	\$ 1,134,232	\$ 948,592	\$ 1,035,462	\$ 689,143	\$ 757,121	\$ 513,084	\$ 521,691
Contributions - Member <sup>2</sup>	96,615	84,579	89,607	90,202	96,594	93,759	104,972	100,543	106,495	104,606
Refunds of contributions to members	(11,693)	(11,847)	(12,116)	(8,953)	(11,523)	(12,342)	(13,603)	(11,819)	(12,130)	(13,552)
Retirement benefits	(1,032,124)	(1,023,704)	(1,023,375)	(1,009,502)	(999,813)	(988,349)	(967,375)	(948,490)	(923,288)	(905,791)
Net Investment Income <sup>2</sup>	349,628	215,880	(162,461)	516,223	52,499	112,371	144,881	220,985	(20,663)	44,570
Administrative Expense	(14,128)	(13,817)	(13,339)	(11,622)	(11,941)	(11,712)	(10,692)	(10,957)	(10,989)	(10,474)
Other	0	0	0	0	0	37 <sup>5</sup>	301 <sup>5</sup>	(30,805) <sup>4</sup>	0	8,442
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 683,993</b>	<b>\$ 526,098</b>	<b>\$ (4,815)</b>	<b>\$ 710,580</b>	<b>\$ 74,408</b>	<b>\$ 229,226</b>	<b>\$ (52,373)</b>	<b>\$ 76,578</b>	<b>\$ (347,491)</b>	<b>\$ (250,508)</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 3,539,943</b>	<b>\$ 3,013,845</b>	<b>\$ 3,018,660</b>	<b>\$ 2,308,080</b>	<b>\$ 2,233,672</b>	<b>\$ 2,004,446</b>	<b>\$ 2,056,870</b>	<b>\$ 1,980,292</b>	<b>\$ 2,327,783</b>	<b>\$ 2,578,291</b>
Prior Year Adjustment	0	0	0	0	0	0	(51)	0	0	0
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 4,223,936</b>	<b>\$ 3,539,943</b>	<b>\$ 3,013,845</b>	<b>\$ 3,018,660</b>	<b>\$ 2,308,080</b>	<b>\$ 2,233,672</b>	<b>\$ 2,004,446</b>	<b>\$ 2,056,870</b>	<b>\$ 1,980,292</b>	<b>\$ 2,327,783</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 12,049,666</b>	<b>\$ 12,318,726</b>	<b>\$ 13,267,343</b>	<b>\$ 13,316,997</b>	<b>\$ 14,164,653</b>	<b>\$ 14,123,002</b>	<b>\$ 13,603,775</b>	<b>\$ 13,388,336</b>	<b>\$ 11,399,489</b>	<b>\$ 10,031,890</b>
<b>Plan Fiduciary Net Position as a Percentage of the Total Pension Liability</b>	25.96%	22.32%	18.51%	18.48%	14.01%	13.66%	12.84%	13.32%	14.80%	18.83%
<b>Covered Employee Payroll<sup>3</sup></b>	<b>\$ 1,912,421</b>	<b>\$ 1,648,318</b>	<b>\$ 1,432,960</b>	<b>\$ 1,441,337</b>	<b>\$ 1,476,156</b>	<b>\$ 1,485,854</b>	<b>\$ 1,509,955</b>	<b>\$ 1,602,396</b>	<b>\$ 1,631,025</b>	<b>\$ 1,544,234</b>
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	630.07%	747.35%	925.87%	923.93%	959.56%	950.50%	900.94%	835.52%	698.92%	649.64%

**Notes:**

<sup>1</sup> Does not include 401(h) assets for fiscal years 2017 and later. 401(h) assets totaled \$73,635,000 as of June 30, 2024

<sup>2</sup> Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later  
For fiscal year 2024, 401(h) contributions equaled -\$18,000; and associated investment return equaled \$6,390,000

<sup>3</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later

<sup>4</sup> Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later

<sup>5</sup> Northern Trust Settlement



## EXHIBIT 2b

### Schedule of the Employers' Net Pension Liability – KERS Hazardous Plan (\$ in thousands)

Change in the Net Pension Liability	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>										
Service Cost	\$ 32,732	\$ 26,852	\$ 26,885	\$ 28,450	\$ 25,568	\$ 27,117	\$ 28,641	\$ 21,081	\$ 20,751	\$ 18,729
Interest	79,637	79,822	79,422	75,743	74,357	69,657	66,536	66,589	64,851	61,005
Benefit Changes	0	0	0	26	0	0	705	0	0	0
Difference between actual and expected experience	49,423	(1,773)	(17,557)	34,789	(1,095)	1,395	24,215	26,902	0	6,067
Assumption Changes	0	(24,197)	0	0	0	50,658	0	127,878	0	52,165
Benefit Payments	(84,662)	(82,677)	(82,023)	(78,268)	(75,029)	(72,211)	(68,117)	(63,338)	(61,518)	(59,383)
<b>Net Change in Total Pension Liability</b>	<b>\$ 77,130</b>	<b>\$ (1,973)</b>	<b>\$ 6,727</b>	<b>\$ 60,740</b>	<b>\$ 23,801</b>	<b>\$ 76,616</b>	<b>\$ 51,980</b>	<b>\$ 179,112</b>	<b>\$ 24,084</b>	<b>\$ 78,583</b>
<b>Total Pension Liability - Beginning</b>	<b>\$ 1,316,521</b>	<b>\$ 1,318,494</b>	<b>\$ 1,311,767</b>	<b>\$ 1,251,027</b>	<b>\$ 1,227,226</b>	<b>\$ 1,150,610</b>	<b>\$ 1,098,630</b>	<b>\$ 919,517</b>	<b>\$ 895,433</b>	<b>\$ 816,850</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 1,393,651</b>	<b>\$ 1,316,521</b>	<b>\$ 1,318,494</b>	<b>\$ 1,311,767</b>	<b>\$ 1,251,027</b>	<b>\$ 1,227,226</b>	<b>\$ 1,150,610</b>	<b>\$ 1,098,630</b>	<b>\$ 919,517</b>	<b>\$ 895,433</b>
<b>Plan Fiduciary Net Position<sup>1</sup></b>										
Contributions - Employer	\$ 89,899	\$ 72,807	\$ 59,055	\$ 62,200	\$ 59,115	\$ 55,259	\$ 43,661	\$ 52,974	\$ 23,759	\$ 28,536
Contributions - Member <sup>2</sup>	21,568	17,459	20,588	19,961	19,769	17,118	17,891	17,524	15,739	13,207
Refunds of contributions to members	(4,133)	(4,041)	(4,976)	(4,380)	(3,168)	(2,684)	(2,501)	(2,106)	(2,211)	(2,610)
Retirement benefits	(80,529)	(78,636)	(77,047)	(73,888)	(71,861)	(69,527)	(65,616)	(61,231)	(59,306)	(56,773)
Net Investment Income <sup>2</sup>	101,135	76,479	(51,317)	173,152	6,739	36,380	51,467	70,994	(1,653)	8,701
Administrative Expense	(1,583)	(1,513)	(1,465)	(1,255)	(1,176)	(1,103)	(975)	(919)	(916)	(844)
Other	0	0	0	0	0	4 <sup>5</sup>	33 <sup>5</sup>	(3,586) <sup>4</sup>	0	767
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 126,357</b>	<b>\$ 82,555</b>	<b>\$ (55,162)</b>	<b>\$ 175,790</b>	<b>\$ 9,418</b>	<b>\$ 35,447</b>	<b>\$ 43,960</b>	<b>\$ 73,650</b>	<b>\$ (24,588)</b>	<b>\$ (9,016)</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 893,533</b>	<b>\$ 810,978</b>	<b>\$ 866,140</b>	<b>\$ 690,350</b>	<b>\$ 680,932</b>	<b>\$ 645,485</b>	<b>\$ 601,529</b>	<b>\$ 527,879</b>	<b>\$ 552,468</b>	<b>\$ 561,484</b>
Prior Year Adjustment	0	0	0	0	0	0	(4)	0	0	0
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 1,019,890</b>	<b>\$ 893,533</b>	<b>\$ 810,978</b>	<b>\$ 866,140</b>	<b>\$ 690,350</b>	<b>\$ 680,932</b>	<b>\$ 645,485</b>	<b>\$ 601,529</b>	<b>\$ 527,879</b>	<b>\$ 552,468</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 373,761</b>	<b>\$ 422,988</b>	<b>\$ 507,516</b>	<b>\$ 445,627</b>	<b>\$ 560,677</b>	<b>\$ 546,294</b>	<b>\$ 505,125</b>	<b>\$ 497,101</b>	<b>\$ 391,638</b>	<b>\$ 342,965</b>
<b>Plan Fiduciary Net Position as a Percentage of the Total Pension Liability</b>	73.18%	67.87%	61.51%	66.03%	55.18%	55.49%	56.10%	54.75%	57.41%	61.70%
<b>Covered Employee Payroll<sup>3</sup></b>	<b>\$ 279,218</b>	<b>\$ 223,922</b>	<b>\$ 188,648</b>	<b>\$ 172,725</b>	<b>\$ 171,840</b>	<b>\$ 160,600</b>	<b>\$ 152,936</b>	<b>\$ 178,511</b>	<b>\$ 158,828</b>	<b>\$ 128,680</b>
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	133.86%	188.90%	269.03%	258.00%	326.28%	340.16%	330.29%	278.47%	246.58%	266.53%

**Notes:**

<sup>1</sup> Does not include 401(h) assets for fiscal years 2017 and later. 401(h) assets totaled \$10,031,000 as of June 30, 2024

<sup>2</sup> Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later

For fiscal year 2024, 401(h) contributions equaled -\$8,000; and associated investment return equaled \$1,005,000

<sup>3</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later

<sup>4</sup> Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later

<sup>5</sup> Northern Trust Settlement



## EXHIBIT 3a

### Schedule of Employers' Contributions – KERS Non-Hazardous Plan (\$ in thousands)

Fiscal Year Ending	Actuarially Determined Contribution <sup>1</sup>	Total Employer Contributions	Contribution Deficiency (Excess)	Covered Employee Payroll <sup>2</sup>	Actual Contributions as a Percentage of Covered Payroll
2024	\$ 1,055,571	\$ 1,295,695	\$ (240,124)	\$ 1,912,421	67.75%
2023	1,034,918	1,275,007	(240,089)	1,648,318	77.35%
2022	1,048,861	1,116,869	(68,008)	1,432,960	77.94%
2021	1,056,211	1,134,232	(78,021)	1,441,337	78.69%
2020	1,048,513	948,592	99,921	1,476,156	64.26%
2019	1,055,402	1,035,462	19,940	1,485,854	69.69%
2018	633,879	689,143	(55,264)	1,509,955	45.64%
2017	623,813	757,121	(133,308)	1,602,396	47.25%
2016	512,670	513,084	(414)	1,631,025	31.46%
2015	520,948	521,691	(743)	1,544,234	33.78%

**Notes:**

<sup>1</sup> Actuarially determined contribution for fiscal year ending 2024 is based on the contribution requirement calculated with the June 30, 2021 actuarial valuation.

<sup>2</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

## EXHIBIT 3b

### Schedule of Employers' Contributions – KERS Hazardous Plan (\$ in thousands)

Fiscal Year Ending	Actuarially Determined Contribution <sup>1</sup>	Total Employer Contributions	Contribution Deficiency (Excess)	Covered Employee Payroll <sup>2</sup>	Actual Contributions as a Percentage of Covered Payroll
2024	\$ 89,897	\$ 89,899	\$ (2)	\$ 279,218	32.20%
2023	72,778	72,807	(29)	223,922	32.51%
2022	59,052	59,055	(3)	188,648	31.30%
2021	62,181	62,200	(19)	172,725	36.01%
2020	59,096	59,115	(19)	171,840	34.40%
2019	55,230	55,259	(29)	160,600	34.41%
2018	31,321	43,661	(12,340)	152,936	28.55%
2017	37,630	52,974	(15,344)	178,511	29.68%
2016	23,690	23,759	(69)	158,828	14.96%
2015	28,374	28,536	(162)	128,680	22.18%

**Notes:**

<sup>1</sup> Actuarially determined contribution for fiscal year ending 2024 is based on the contribution rate calculated with the June 30, 2021 actuarial valuation.

<sup>2</sup> Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

## Notes to Schedule of Employers' Contributions for FYE 2024

The actuarially determined contributions effective for fiscal year ending 2024 that are documented in the schedules on the previous pages were calculated as of June 30, 2021. Based on the June 30, 2021 actuarial valuation report, the actuarial methods and assumptions used to calculate these contribution rates are below:

Item	KERS Non-Hazardous Plan	KERS Hazardous Plan
Determined by the Actuarial Valuation as of:	June 30, 2021	June 30, 2021
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal
Asset Valuation Method:	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized
Amortization Method:	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019 <i>Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases</i>	30-year closed period at June 30, 2019 <i>Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases</i>
Payroll Growth Rate	0.00%	0.00%
Investment Return:	5.25%	6.25%
Inflation:	2.30%	2.30%
Salary Increases:	3.30% to 15.30%, varies by service	3.55% to 20.05%, varies by service
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019

## EXHIBIT 4

### Sensitivity of the Net Pension Liability to Changes in the Discount Rate (\$ in thousands)

**Table 1. Sensitivity of the Net Pension Liability to Changes in the Discount Rate for KERS (Non-Hazardous)**

<b>1.00% Decrease (4.25%)</b>	<b>Current Discount Rate (5.25%)</b>	<b>1.00% Increase (6.25%)</b>
\$ 13,948,313	\$ 12,049,666	\$ 10,476,712

**Table 2. Sensitivity of the Net Pension Liability to Changes in the Discount Rate for KERS (Hazardous)**

<b>1.00% Decrease (5.25%)</b>	<b>Current Discount Rate (6.25%)</b>	<b>1.00% Increase (7.25%)</b>
\$ 541,741	\$ 373,761	\$ 238,565