Educational Employees' Supplementary Retirement System of Fairfax County

Actuarial Valuation Report as of December 31, 2023

September 2024

Gallagher

Insurance | Risk Management | Consulting

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September 20, 2024

Pension Committee
Educational Employees' Supplementary Retirement System of Fairfax County
(ERFC)

This report documents the results of the annual actuarial valuation as of December 31, 2023 for the Educational Employees' Supplementary Retirement System of Fairfax County ("ERFC"). The report was prepared at the request of the Executive Director and is intended for use by ERFC and those designated or approved by the Board. Historical information contained in our report for valuation year December 31, 2022 and prior is based upon the information contained in the December 31, 2022 valuation report performed by the prior actuarial firm.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the Applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board.

The purpose of the valuation is to measure the funding progress of the ERFC plan. Determinations for purposes other than the funding valuation may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

It should be noted that future actuarial measurements may differ significantly from the current measurements presented in the report due (but not limited to) to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in actuarial methods or in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the ERFC staff as of the valuation date. Although we reviewed for reasonableness and consistency with the prior valuation, these elements have not been audited by Gallagher and we cannot certify as to the accuracy and completeness of the data supplied. The valuation is also based on benefit and contribution provisions as presented in this report. If you have reason to believe that the plan provisions are incorrectly described that important plan provisions relevant to this valuation are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial report prior to relying on this information.

The actuarial assumptions and methods used in the valuation are described in the Actuarial Assumptions and Methods section of this report. The Board selected the economic and demographic assumptions and prescribed them for use for purposes of these calculations. We believe that these assumptions are reasonable and comply with the Actuarial Standards of Practice ("ASOPs") 27 and 35. We prepare this valuation in accordance with the requirements of this standard and in accordance with all applicable ASOPs.

ASOPs 27 and 35 ask the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. In the case of the Board's selection of the investment return assumption, we used GEMS® Economic Scenario Generator from Conning & Company to assess reasonableness of the investment return rate. GEMS® uses a multifactor model to create internally consistent, realistic economic scenarios (paths) that reflect the current economic environment as a starting point. Asset class correlations may vary from year to year (just as in the real world), as well as from path to path. The model generates results that are not normally distributed, with fatter tails, and should therefore estimate the probabilities of rare events more realistically than a pure mean-variance model. Based on the actuaries' analysis, including consistency with other assumptions used in the valuation, the percentiles generated by the GEMS® Economic Scenario Generator and review of actuarial gain/loss experience, the actuaries believe the assumptions, in the actuaries' professional judgment, are reasonable for the purpose of the measurement. In addition, in our professional judgment, the combined effect of the assumptions is expected to have no significant bias.

Actuarial Standard of Practice No. 56 provides guidance to actuaries performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Gallagher uses third-party software to perform annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the System's provisions using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding methods and policies to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report.

Gallagher maintains an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Gallagher also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Gallagher who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed.

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Kevin Spanier is an Associate of the Society of Actuaries and Elizabeth Wiley is a Fellow of the Society of Actuaries and both are Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

Buck Global, LLC
Gallagher Benefit Services, Inc. (hereinafter "Gallagher")

Kevin Spanier, ASA, EA, MAAA, FCA
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Director, Retirement Consulting

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Funding Requirements

Summary

The following table illustrates the unfunded pension liability under the plan's current funding policy, which is restated below.

Table 1: Funded Status Summary

	Valuation Date December 31, 2022	Valuation Date December 31, 2023
Actuarial (Pension) Liability		
Retired Participants and Beneficiaries Receiving Payment	$ 2,082,086,209	$ 2,148,638,375
Terminated Vested Participants	186,295,012	198,092,822
Active Participants	1,850,650,132	1,941,047,565
Total	$ 4,119,031,353	$ 4,287,778,762
Actuarial Value of Assets	(3,180,603,841)	(3,364,375,033)
Unfunded Actuarial Accrued Liability	$ 938,427,512	$ 923,403,729
Funded Ratio		
Actuarial Value of Assets	77.2%	78.5%
Market Value of Assets	71.7%	72.9%
Discount Rate	7.00%	7.00%

Funding Policy

The ERFC Funding Policy, as stated in the ERFC Regulations is 'to establish and receive contributions which will remain approximately level from generation to generation of Citizens and which, when combined with other assets and investment return thereon, will be sufficient to pay benefits when due, while providing a reasonable margin for adverse experience."

The employer contribution rate will be set at a level that is expected to (1) pay all normal costs accruing under the Plan during the Fiscal Years which the rate is effective and (ii) amortize any unfunded liabilities over a reasonable period.

For actuarial valuations prior to December 31, 2019, unfunded accrued liabilities were being amortized over a closed 30-year period ending on June 30, 2040. The remaining amortization period for these unfunded liabilities in the December 31, 2023 valuation was 15 years. Effective with actuarial valuations on/after December 31, 2019, the Trustees may elect to create new 20-year amortization schedule for changes in liabilities arising during that actuarial valuation or subsequent actuarial valuations and continue the amortization of preexisting unfunded liabilities to their scheduled end date.

Additionally, in order to stabilize contributions, the Trustees may from time to time elect to combine separate amortization schedules into a single schedule over the average remaining amortization period.

We believe the contributions developed using this funding policy comply with the requirements of a Reasonable Actuarially Determined Contribution as required under ASOP 4.

Based on current projections assuming no actuarial gains or losses and a stable workforce, the contributions based on this funding policy is expected to increase until the December 31, 2019 amortization base is fully amortized and then decline thereafter. The plan would be projected to reach 100% funding in 2046. See Appendix C for a more detailed analysis.

Contribution Rate

Actuarial funding valuations as of odd-numbered years (2021, 2023, 2025, etc.) are used to develop the appropriate employer contribution rate for the two-year period beginning 18 months after the valuation date. As such, the results from the December 31, 2021 valuation were used to set the employer contribution rate of 6.48% for the period July 1, 2024 to June 30, 2026. Similarly, the results from the December 31, 2023 valuation are used to set the employer contribution rate of 6.61% for the period July 1, 2026, through June 30, 2028.

Actuarial funding valuations as of even-numbered years (2020, 2022, 2024 etc.) are used to develop an interim employer contribution rate that is then compared with the employer contribution rate that will be effective in July of the year following the valuation (2021, 2023, 2025, etc.) to ensure that the rate previously determined and adopted by ERFC remains appropriate for the plan based on the most recent plan experience.

The results from each annual actuarial valuation are also used to develop the financial reporting results required under the Governmental Accounting Standard Board (GASB) Statements, in accordance with parameters specified by the GASB for the fiscal year ending June 30 following the valuation date.

The following table illustrates the development of the employer contribution rate.

Table 2: Actuarially Determined Employer Contribution

Valuation Date	December 31, 2021	December 31, 2022	December 31, 2023
Contribution Rate as a Percent of Member Payroll for period ending June 30	2024 & 2025	N/A	2026 & 2027
Normal Cost (Current Cost) split by:			
Service Retirement	3.67%	3.64%	3.85%
Disability Retirement	0.10%	0.09%	0.02%
Casualty Benefits	0.06%	0.05%	0.07%
Separation Benefits	1.61%	1.57%	1.60%
Administrative Expenses	0.25%	0.23%	0.27%
Total	5.69%	5.58%	5.81%
Less Member contribution Rate	(3.00)%	(3.00)%	(3.00)%
Employer Normal Cost	2.69%	2.58%	2.81%
Add Contribution Rate for Unfunded Actuarial Accrued Liability	3.80%	4.05%	3.96%
Net Employer Contribution	6.49%	6.63%	6.77%
Adjustment For ERFC 2001 Tier 2	(0.01)%	(0.01)%	(0.16)%
Actuarially Determined Employer Contribution	6.48%	6.62%	6.61%

The Funding Policy contribution for the two-year period beginning July 1, 2023 was determined by the December 31, 2021 valuation. The Board adopted a contribution rate of 6.48% of payroll. The Funding Policy contribution for the two-year period beginning July 1, 2025 is determined by the December 31, 2023 valuation. The Board adopted a contribution rate of 6.61% of payroll.

Contribution Rate Percentage for Unfunded Accrued Liabilities

The employer contribution rate includes a charge intended to pay for the unfunded accrued liabilities. This charge is developed by projecting the unfunded liabilities from the valuation date to the beginning of the fiscal year in which the contributions will begin, and then amortizing this result over a set period as a level percent of the projected payroll for all active employees (including those that are currently in the DROP and not accruing additional benefits).

The following table illustrates the development of the charge for the current unfunded accrued actuarial liabilities. This contribution rate is expected to fully amortize the current unfunded accrued actuarial liabilities over 19 years.

Table 3: Projected UAAL

		Valuation Date December 31, 2023
1.	Unfunded Actuarial Accrued Liability (UAAL)	$ 923,403,729
2.	Expected Contribution	
	a. January 1 – June 30, 2024	(34,081,386)
	b. July 1, 2024 – June 30, 2025	(70,522,100)
3.	Interest	92,874,325
4.	UAAL at June 30, 2025 (1 + 2a +2b+3)[1]	$ 911,674,568
5.	Projected Payroll for FY2025	2,009,667,680
6.	Amortization Factor	N/A
7.	Contribution rate for UAAL[1]	3.96%

Effective December 31, 2023, the Trustees elected to create a new 20-year closed amortization base for actuarial losses arising in 2023. Unfunded liabilities associated with assumption changes will be amortized as a level percent of pay over a closed 20-year period. The unfunded liability prior to 2023 continues to be amortized over their preexisting schedules.

The following table Illustrates the development of the charge for the current unfunded accrued actuarial liability.

[1] See page 4 for details

Table 4: Amortization of Unfunded Actuarial Accrued Liability

The table below lists the amortization amount and balance for each UAAL base as of July 1, 2024.

			Annual Amortization Schedule			
Date Established	Description	Prior Year Balance	FYE2023*	FYE2024*	Interest	Balance as of 12/31/2023
N/A	UAAL Prior to 2021	$836,878,121	$70,703,616	$69,759,980	$55,937,758	$822,584,081
12/31/2020	Assumption Change	(13,321,192)	0	(2,112,527)	(911,383)	(13,176,311)
12/31/2021	Actuarial (Gain)/Loss	(107,734,279)	0	(8,572,570)	(7,455,772)	(110,903,766)
12/31/2021	Assumption Change	131,822,781	0	9,087,889	9,136,821	136,415,657
12/31/2022	Actuarial (Gain)/Loss	90,782,081	0	0	6,354,746	97,136,827
12/31/2023	Actuarial (Gain)/Loss	0	0	0	0	(163,808,229)
12/31/2023	Sick Leave[1]	0	0	0	0	28,717,550
12/31/2023	DROP Program[2]	0	0	0	0	126,437,920
Total		$938,427,512	$70,703,616	$68,162,772	$63,062,170	$923,403,729

*Note that the annual amortization for the corresponding fiscal year ending June 30th is shown in the columns, but the final balance as of the end of the year accounts for half of the annual amortization for each of the corresponding fiscal years.

			Annual Amortization Schedule			
Date Established	Description	Current Year Balance	1/1/2024 – 6/30/2024	7/1/2024 – 6/30/2025	Interest	Balance as of 6/30/2025
N/A	UAAL Prior to 2021	$822,584,081	$34,879,990	$70,446,816	$82,034,965	$799,292,240
12/31/2020	Assumption Change	(13,176,311)	(1,056,264)	(1,752,277)	(1,245,178)	(11,612,948)
12/31/2021	Actuarial (Gain)/Loss	(110,903,766)	(4,286,285)	(8,173,651)	(11,147,988)	(109,591,818)
12/31/2021	Assumption Change	136,415,657	4,543,945	10,001,212	13,780,959	135,651,459
12/31/2022	Actuarial (Gain)/Loss	97,136,827	0	0	10,375,826	107,512,653
12/31/2023	Actuarial (Gain)/Loss	(163,808,229)	0	0	(17,497,440)	(181,305,669)
12/31/2023	Sick Leave[1]	28,717,550	0	0	3,067,511	31,785,061
12/31/2023	DROP Program[2]	126,437,920	0	0	13,505,670	139,943,590
Total		$923,403,729	$34,081,386	$70,522,100	$92,874,325	$911,674,568

[1] "Sick leave" refers to the amendment effective July 1, 2024 to permit Tier 1 and Tier 2 employees to convert unused sick leave into additional credited service.
[2] "DROP Program" refers to the amendment effective July 1, 2024 to permit Legacy employees to enter into a DROP program.

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Table 4: Amortization of Unfunded Actuarial Accrued Liability (continued)

Date Established	Description	Projected Balance as of 06/30/2025	Remaining Amortization Period	Amortization Factor	Amortization Base	Amortization Payment for Percent of Salary
N/A	UAL Prior to 2021	$799,292,240	15	11.12065	$71,874,597	3.58%
12/31/2020	Assumption Change	(11,612,948)	7	6.03021	(1,925,795)	-0.10%
12/31/2021	Actuarial (Gain)/Loss	(109,591,818)	18	12.64240	(8,668,593)	-0.43%
12/31/2021	Assumption Change	135,651,459	18	12.64240	10,729,882	0.53%
12/31/2022	Actuarial (Gain)/Loss	107,512,653	19	13.10990	8,200,875	0.41%
12/31/2023	Actuarial (Gain)/Loss	(181,305,669)	20	13.55883	(13,371,778)	-0.67%
12/31/2023	Sick Leave	31,785,061	20	13.55883	2,344,233	0.12%
12/31/2023	Drop Program	139,943,590	20	13.55883	10,321,214	0.51%
Total		$911,674,568			$79,504,635	3.96%

Projected Fiscal Year Ending 2025 Salary Payroll	$1,920,544,387
Projected Fiscal Year Ending 2026 Salary Payroll	$2,009,667,680
Contribution Rate for Unfunded Actuarial Liability	3.96%

Table 5: Employer Contribution Rate History

			Adopted Employer Rate		
Fiscal Year	Valuation Date	Employee Rate	Support	Educational	ADEC
1991	1989	2.00%	5.08%	5.53%	
1992	1990	2.00%	5.08%	5.53%	
1993	1991	2.00%	5.08%	5.53%	
1994	1992	2.00%	5.08%	5.53%	
1995	1993	2.00%	5.08%	5.53%	
1996	1994	2.00%	5.08%	5.53%	
1997	1995	2.00%	5.58%	6.03%	
1998	1996	2.00%	5.58%	6.03%	
1999	1997	2.00%	5.58%	6.03%	
			Combined July 1, 1999		
2000	1998	2.00%	4.99%		
2001	1999	2.00%	3.69%		
2002	2000	2.00%	3.69%		
2003	2001	2.00%	4.00%		
2004	2002	2.00% / 4.00%	4.29% / 2.53%		
2005	2003	4.00%	3.37%		
2006	2004	4.00%	3.37%		
2007	2004	4.00%	3.37%		
2008	2005	4.00%	3.37%		3.37%
2009	2005	4.00%	3.37%		3.14%
2010	2007	4.00%	3.20%		2.97%
2011	2007	4.00%	4.04%		4.04%
2012	2009	4.00%	4.34%		4.16%
2013	2009	3.00%	5.34%		5.38%
2014	2011	3.00%	5.60%		5.51%
2015	2011	3.00%	5.60%		5.58%
2016	2013	3.00%	5.60%		5.54%
2017	2013	3.00%	5.60%		5.59%
2018	2015	3.00%	6.24%		6.34%
2019	2016	3.00%	6.26%		6.26%
2020	2017	3.00%	6.44%		6.44%
2021	2018	3.00%	6.44%		6.58%
2022	2019	3.00%	6.70%		6.70%
2023	2020	3.00%	6.70%		6.34%
2024	2021	3.00%	6.48%		6.48%
2025	2022	3.00%	6.48%		6.62%
2026	2023	3.00%	TBD		6.61%

Asset Information

Market Value of Assets

Table 6: Asset Breakdown and Portfolio Composition at Market Value

Portfolio Composition at Market Value	Year Ending December 2022		2023	
	Value	% of Total	Value	% of Total
Bonds	$ 540,303,408	18.1%	$ 717,886,435	18.3%
Stocks	302,486,876	13.6%	236,995,777	10.2%
Real Estate	282,609,322	5.3%	282,633,412	9.6%
Commingled Funds	972,509,871	30.7%	978,267,085	32.9%
Hedge Fund of Funds	0	0.0%	0	0.0%
Hedge Funds – Opportunistic	235,054,026	7.7%	125,180,142	8.0%
MACS	126,220,939	7.6%	324,291,740	4.3%
Private Equity	303,593,484	9.2%	73,680,807	10.3%
Private Debt	52,382,844	0.5%	58,242,890	1.8%
Infrastructure	39,420,351	0.1%	18,546,277	1.3%
Natural Resource	14,391,719	0.0%	60,378,623	0.5%
Net Short-Term Investments and Cash	77,760,216	2.3%	10,362,159	2.6%
Receivables, Pre-Paid Expenses and Other	7,427,182	4.9%	125,180,142	0.3%
Total Assets	$ 2,954,160,238	100.0%	$ 3,127,209,486	100.0%

Table 7: Actuarial Value of Assets

Year Ended December 31:	2023	2024	2025	2025	2027
A. Actuarial Value Beginning of Year	$ 3,180,603,841				
B. Market Value End of Year	3,127,209,486				
C. Market Value Beginning of Year	2,954,160,238				
D. Non-Investment Net Cash Flow	(45,258,596)				
E. Investment Return Assumed Rate	7.00%	7.00%			
E1. Market Total: B. – C. – D.	218,307,844				
E2. Amount for Immediate Recognition	221,622,059				
E3. Amount for Phased-In Recognition: E1. – E2.	(3,314,215)				
F. Phased-In Recognition of Investment Return					
F1. Current year: 0.20 x E3.	(662,843)				
F2. First Prior Year	(128,197,165)	(662,843)			
F3. Second Prior Year	54,646,089	(128,197,165)	(662,843)		
F4. Third Prior Year	40,785,139	54,646,089	(128,197,165)	(662,843)	
F5. Fourth Prior Year	40,836,509	40,785,140	54,646,087	(128,197,163)	(662,843)
F6. Total Phased-In	7,407,729	(33,428,779)	(74,213,921)	(128,860,006)	(662,843)
G. Actuarial Value End of Year:					
G1. Preliminary Actuarial Value End of Year: A. + D. + E2. + F6	3,364,375,033				
G2. Upper Corridor Limit: 125% x B.	3,909,011,858				
G3. Lower Corridor Limit: 75% x B.	2,345,407,115				
G4. Actuarial Value End of Year	**3,364,375,033**				
H, Actual/Projected Difference Between Market Value and Actuarial Value	(237,165,547)				
I. Market Rate of Return: E1. / (C. + D/2)	7.45%				
J. Recognized Rate of Return: (E2. + F6.) / (A. + D/2)	7.25%				
K. Ratio of Actuarial Value to Market Value	107.58%				

The Actuarial Value of Assets recognizes assumed investment return (lineE2.) fully each year.
Differences between actual and assumed investment returns (line E3.) are phased-in over a closed 5-year period.

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Table 8: History of Actuarial Value of Assets

Year Ended December 31	2018	2019	2020	2021	2022
A. Actuarial Value Beginning of Year	$2,398,667,997	$2,466,004,272	$2,582,582,541	$2,786,297,490	$3,058,883,149
B. Market Value End of Year	2,446,214,825	2,280,734,191	2,628,073,659	2,984,109,514	3,419,373,454
C. Market Value Beginning of Year	2,280,734,191	2,628,073,659	2,984,109,514	3,419,373,454	2,954,160,238
D. Non-Investment Net Cash Flow	(27,765,155)	(34,382,034)	(33,898,263)	(38,574,737)	(37,052,380)
E. Investment Return Assumed Rate	7.25%	7.25%	7.25%	7.25%	7.00%
E1. Market Total: B. – C. – D.	(137,715,479)	381,721,502	389,934,118	473,838,677	(428,160,836)
E2. Amount for Immediate Recognition	172,896,943	177,538,961	186,008,422	200,608,234	212,824,987
E3. Amount for Phased-In Recognition: E1. – E2.	(310,612,422)	204,182,541	203,925,696	273,230,443	(640,985,823)
F. Phased-In Recognition of Investment Return					
F1. Current year: 0.20 x E3.	(62,122,484)	40,836,508	40,785,139	54,646,089	(128,197,165)
F2. First Prior Year	36,406,910	-62,122,484	40,836,508	40,785,139	54,646,089
F3. Second Prior Year	-4,301,284	36,406,910	-62,122,484	40,836,508	40,785,139
F4. Third Prior Year	-37,398,310	-4,301,284	36,406,910	-62,122,484	40,836,508
F5. Fourth Prior Year	(10,380,345)	(37,398,308)	(4,301,283)	36,406,910	(62,122,486)
F6. Total Phased-In	(77,795,513)	(26,578,658)	51,604,790	110,552,162	(54,051,915)
G. Actuarial Value End of Year:					
G1. Preliminary Actuarial Value End of Year: A. + D. + E2. + F6	2,466,004,272	2,582,582,541	2,786,297,490	3,058,883,149	3,180,603,841
G2. Upper Corridor Limit: 125% x B.	2,850,917,739	3,285,092,074	3,730,136,893	4,274,216,818	3,692,700,298
G3. Lower Corridor Limit: 75% x B.	1,710,550,643	1,971,055,244	2,238,082,136	2,564,530,091	2,215,620,179
G4. Actuarial Value End of Year	**2,466,004,272**	**2,582,582,541**	**2,786,297,490**	**3,058,883,149**	**3,180,603,841**
H, Actual/Projected Difference Between Market Value and Actuarial Value	(185,270,081)	45,491,118	197,812,024	360,490,305	(226,443,603)
I, Market Rate of Return: E1. / (C. + D/2)	-5.66%	16.86%	14.93%	15.98%	-12.59%
J. Recognized Rate of Return: (E2. + F6.) / (A. + D/2)	3.99%	6.16%	9.26%	11.25%	5.22%
K. Ratio of Actuarial Value to Market Value	108.12%	98.27%	93.37%	89.46%	107.67%

Assets and Liabilities

Table 9a: Comparative Statement History

Valuation Date	Active Member Payroll	Computed Liabilities			Actuarial Value of Assets	Unfunded Accrued Liabilities	Funded %
		Retired	Other Members	Total			
	($ in thousands)						
12/31/2013	1,320,309	1,482,770	1,162,730	2,645,500	2,029,005	616,495	76.7%
12/31/2014	1,340,344	1,510,717	1,223,128	2,733,845	2,123,910	609,935	77.7%
12/31/2015[1]	1,373,096	1,590,489	1,290,214	2,880,703	2,188,037	692,666	76.0%
12/31/2016[1]	1,436,588	1,668,485	1,364,018	3,032,503	2,279,741	752,792	75.2%
12/31/2017	1,475,449	1,733,431	1,434,510	3,167,941	2,398,668	769,273	75.7%
12/31/2018	1,554,614	1,791,189	1,542,925	3,334,114	2,466,004	868,110	74.0%
12/31/2019	1,632,427	1,841,322	1,626,828	3,468,150	2,582,582	885,568	74.5%
12/31/2020	1,633,458	1,903,321	1,731,923	3,635,244	2,786,297	848,947	76.6%
12/31/2021	1,662,801	2,013,044	1,908,009	3,921,052	3,058,883	862,169	78.0%
12/31/2022	1,790,601	2,082,086	2,036,945	4,119,031	3,180,604	938,427	77.2%
12/31/2023	1,881,167	2,148,638	2,139,141	4,287,779	3,364,375	923,404	78.5%

Table 9b: Comparative Statement History - Expressed as Percent of Active Member Payroll

Valuation Date	Active Member Payroll ($ thousands)	As Percent of Active Member Payroll		
		Computed Liabilities	Actuarial Value of Assets	Unfunded Liabilities
12/31/2012	1,297,537	198%	149%	49%
12/31/2013	1,320,309	200%	154%	46%
12/31/2014	1,340,344	204%	158%	46%
12/31/2015	1,373,096	210%	159%	51%
12/31/2016	1,436,588	211%	159%	52%
12/31/2017	1,475,449	215%	163%	52%
12/31/2018	1,554,614	214%	159%	56%
12/31/2019	1,632,427	212%	158%	54%
12/31/2020	1,633,458	223%	171%	52%
12/31/2021	1,662,801	236%	184%	52%
12/31/2022	1,790,601	230%	178%	52%
12/31/2023	1,881,144	228%	179%	49%

[1] After change in benefits or contribution rates and actuarial assumptions or methods.

Table 10: Changes in Unfunded Accrued Liabilities During the Year

The following table illustrates the change in unfunded accrued liabilities during the year.

	Year Ending 12/31/2022 ($ millions)[1]	Year Ending 12/31/2023 ($ millions)
1. Unfunded Actuarial Accrued Liability (UAAL) at Start of Year	$ 862.2	$ 938.4
2. Normal Cost	101.9	100.9
3. Member and Employer contributions	(171.9)	(172.3)
4. Interest Accrual	55.5	66.8
5. Expected UAL before changes: (1. + 2. + - 3. + 4.)	847.7	933.8
6. Transition of actuarial services	0.0	(172.3)
7. Change from Benefit Changes	0.0	155.2
8. Change from Assumptions	0.0	0.0
9. Expected UAL after changes: (5. + 6. + 7. + 8.)	847.7	916.7
10. Actual UAL at end of year	938.4	923.4
11. Gain/(Loss) (7. – 8.)	$ (90.7)	$ (6.7)
Gain (loss) as percent of actuarial accrued liabilities at start of year	(2.3)%	(0.2)%

Table 11: Breakdown of Unfunded Liability Gain/Loss

The following table illustrates the breakdown of the unfunded gain/(loss) by source.

($ in Millions)	12/31/2022[1]	12/31/2023
Economic Risks		
Pay Increases	$ (23.0)	$ (21.2)
Investment Return	(67.5)	7.4
Demographic Risk		
Retirement	(3.5)	(10.6)
Mortality	3.7	4.2
Disability	(0.4)	(0.9)
Termination	1.6	(4.2)
Date Adjustment and Miscellaneous*	(1.6)	18.5
Unfunded Actuarial Accrued Liability Gain/(Loss)	$ (90.7)	(6.7)

[1] Results shown as of December 31, 2022 were prepared by the prior actuary.

Gallagher

Table 12: Experience Gains and Losses by Risk Area Comparative Statement ($ in Millions)

Experience Period	Pay Increase	Investment Return	Retirement	Disability & Death-in-Service	Other Separations	Other[1]	Total Gain (Loss) $	Total Gain (Loss) Percent of Liabilities
1997 – 1998[2]	$ (2.6)	$ 81.1	$ 5.9	$ (0.5)	$ 6.4	$ (13.9)	$ 76.4	$ 6.3%
1998 - 1999[3]	(8.4)	95.4	(0.3)	(1.0)	6.5	(3.8)	89.0	7.0%
1999 – 2000	(17.6)	62.3	3.8	(1.2)	12.9	38.9	99.1	7.4%
2000 – 2001	(9.1)	17.6	(0.3)	(1.0)	13.0	(19.5)	0.7	0.0%
2001 – 2002	3.0	(50.4)	3.5	(1.1)	2.6	(29.9)	(72.3)	(4.7)%
2002 – 2003	18.5	(92.5)	11.0	(0.3)	4.0	(23.3)	(82.6)	(4.9)%
2003 – 2004[2,4]								
2005	(7.1)	1.9	1.0	0.1	0.0	(3.2)	(7.3)	(0.4)%
2006	(4.7)	23.6	2.0	0.0	(0.8)	2.6	22.7	1.1%
2007	10.0	25.1	1.9	(0.2)	(2.2)	(7.2)	27.4	1.4%
2008	4.1	(277.5)	5.2	(0.4)	(4.0)	13.5	(259.1)	(11.8)%
2009	45.0	(34.6)	8.8	(0.8)	(10.0)	(11.6)	(3.2)	(0.1)%
2010[2]	53.1	(16.9)	5.2	0.2	(5.3)	(4.2)	32.1	1.4%
2011	18.8	(30.6)	5.3	(0.2)	(4.2)	(4.8)	(15.7)	(0.7)%
2012	12.3	(10.8)	4.6	(0.3)	(3.4)	(10.2)	(7.8)	(0.3)%
2013	16.6	7.6	5.7	0.0	2.9	(5.1)	27.7	1.1%
2014	8.5	(2.8)	5.8	(0.1)	0.6	2.8	14.8	0.6%
2015[2]	17.7	(40.2)	5.9	(0.4)	1.0	(12.4)	(28.4)	(1.0)%
2016	(14.2)	(13.9)	5.1	0.2	6.6	(5.6)	(21.8)	(0.8)%
2017	8.8	2.7	3.3	0.0	2.6	(19.6)	(2.2)	(0.1)%
2018	(16.1)	(77.7)	(6.0)	(1.8)	4.3	(6.0)	(103.3)	(3.3)%
2019	(12.0)	(26.5)	(4.1)	(2.7)	6.3	(1.7)	(40.7)	(1.2)%
2020[2]	(10.5)	51.6	1.9	(4.7)	1.9	(7.6)	32.6	0.9%
2021	14.9	110.6	(14.6)	3.0	4.2	(1.8)	116.3	3.2%
2022	(23.0)	(67.5)	(3.5)	3.3	1.6	(1.6)	(90.7)	(2.3)%
2023	(21.2)	7.4	(10.6)	(0.9)	(4.2)	18.5	(6.7)	(0.2)%

[1] Includes post-retirement mortality
[2] Experience study
[3] Updated gain formulas
[4] Gain (Loss) analysis not performed

Appendix A: Actuarial Assumptions and Methods

Discussion of Actuarial Assumptions and Methods

For the funding valuation, ERFC selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with the state's funding regulations. Gallagher provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations on anticipated plan experience. The actuarial cost and amortization methods are not prescribed by state or local statute.

While the method used to value assets is prescribed by ERFC, Gallagher provided guidance with respect to the use of this method, and it is our belief that the method is appropriate for funding purposes.

Calculation of Normal Costs and Liabilities

The method used to calculate the normal cost and projected benefit obligation for determining the employer contribution rate is the entry age normal cost method. Under this cost method, the actuarial accrued liability is based on a prorated portion of the present value of all benefits earned to date over the expected future working lifetime of plan participants. The proration is determined so that the cost with respect to service accrued from date of hire is recognized as a level percentage of pay each year. The Normal Cost is equal to the prorated cost for the year of the valuation.

Normal cost and projected benefit obligations are determined separately for ERFC Legacy, ERFC Tier 1 and ERFC Tier 2 participants and added together to produce the results shown in this report. It is expected that over time, the plan's Normal Cost will become the Normal Cost for the Tier 2 participants. Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal and interest) which are level percent-of-payroll contributions, assuming payroll grows at the rate indicated elsewhere in this report.

Valuation date

December 31, 2023

Mortality

Non-disabled (Healthy)

The mortality table used to measure retired life mortality was 102% of the male rates and 99% of the female rates of the PUB-2010 Teachers mortality table projected generationally using Scale MP-2020.

Disabled

The corresponding Disabled and Employee tables were used for disability and pre-retirement mortality, respectively.

Investment return rate

7.00% per annum, net of investment expenses

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods

Salary increases

Pay Increase Assumption

Service Index	Merit & Seniority	Base (Economy)	Increase Next Year
0-1	4.50%	2.75%	7.25%
1-2	4.00%	2.75%	6.75%
2-3	4.00%	2.75%	6.75%
3-4	4.00%	2.75%	6.75%
4-5	4.00%	2.75%	6.75%
5-6	4.00%	2.75%	6.75%
6-7	4.00%	2.75%	6.75%
7-8	3.50%	2.75%	6.25%
8-9	3.50%	2.75%	6.25%
9-10	3.50%	2.75%	6.25%
10-11	3.00%	2.75%	5.75%
11-12	3.00%	2.75%	5.75%
12-13	2.50%	2.75%	5.25%
13-14	2.50%	2.75%	5.25%
14-15	2.00%	2.75%	4.75%
15-16	2.00%	2.75%	4.75%
16-17	1.50%	2.75%	4.25%
17-18	1.50%	2.75%	4.25%
18-19	1.50%	2.75%	4.25%
19-20	1.00%	2.75%	3.75%
20-21	1.00%	2.75%	3.75%
21-22	0.50%	2.75%	3.25%
22-23	0.50%	2.75%	3.25%
23-24	0.50%	2.75%	3.25%
24-25	0.50%	2.75%	3.25%
25+	0.00%	2.75%	2.75%

General inflation

2.75%

Marital percentage

It is assumed that 80% of males and 80% of females have an eligible spouse for purposes of death-in-service benefits, and that males are 3 years older than their spouse.

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Current Year:
Retirement Age (Active participants)

	ERFC (Hired Before 7/1/2001) Type of Retirement		ERFC 2001 Tier 1 (Hired 7/1/2001 - 6/30/2017)			ERFC 2001 Tier 2 (Hired 7/1/2001 - 6/30/2017) Age Based	
	Age Based	25+ years of service	Age Based	Service	Service Based	Rule of 90 Met? Yes	No
Ages							
45		2.0%					
46		2.0%					
47		2.0%					
48		2.0%					
49		2.0%					
50		2.0%					
51		2.0%					
52		7.0%					
53		7.0%					
54		15.0%					
55	12.5%	80.0%*		30	17.5%		
56	12.5%	80.0%*		31	17.5%	35.0%	0.0%
57	12.5%	80.0%*		32	12.5%	35.0%	0.0%
58	12.5%	80.0%*		33	12.5%	35.0%	0.0%
59	12.5%	80.0%*		34	12.5%	35.0%	0.0%
60	12.5%	80.0%*	10.0%	35	10.0%	35.0%**	0.0%
61	17.5%	80.0%*	10.0%	36	10.0%	35.0%	0.0%
62	20.0%	80.0%*	10.0%	37	10.0%	35.0%	0.0%
63	20.0%	80.0%*	15.0%	38	25.0%	35.0%	0.0%
64	25.0%	80.0%*	15.0%	39	40.0%	35.0%	0.0%
65	40.0%	35.0%	25.0%	40 & Up	100.0%	35.0%	0.0%
66	40.0%	45.0%	30.0%			35.0%	0.0%
67	35.0%	35.0%	25.0%			35.0%	30.0%
68	30.0%	35.0%	20.0%			35.0%	15.0%
69	30.0%	35.0%	20.0%			35.0%	15.0%
70	40.0%	35.0%	45.0%			35.0%	15.0%
71	25.0%	35.0%	30.0%			35.0%	15.0%
72	35.0%	35.0%	30.0%			35.0%	15.0%
73	35.0%	35.0%	30.0%			35.0%	15.0%
74	35.0%	35.0%	30.0%			35.0%	15.0%
75& Over	100.0%	100.0%	100.0%			100.0%	100.0%

** 80% of participants are assumed to enter the drop program while 20% are assumed to retire immediately*

*** The probability is 60% at age 60 for people who first meet the Rule of 90 at age 60*

The age column index does not apply to service-based retirements. In ERFC 2001 Tier 1, an individual can retire at 30 years of service regardless of age. In ERFC 2001 Tier 2, and individual would be able to retire at FSSA with 5 years of service or when the sum of age and service is greater than or equal to 90. FSSA is assumed to be age 67 for members hired on/after July 1, 2017.

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Prior Year:
Retirement Age (Active participants)

	ERFC (Hired Before 7/1/2001) Type of Retirement	
Ages	Age Based	25+ years of service
45		2.0%
46		2.0%
47		2.0%
48		2.0%
49		2.0%
50		2.0%
51		2.0%
52		7.0%
53		7.0%
54		15.0%
55	12.5%	40.0%
56	12.5%	25.0%
57	12.5%	25.0%
58	12.5%	15.0%
59	12.5%	25.0%
60	12.5%	25.0%
61	17.5%	20.0%
62	20.0%	30.0%
63	20.0%	25.0%
64	25.0%	25.0%
65	40.0%	35.0%
66	40.0%	45.0%
67	35.0%	35.0%
68	30.0%	35.0%
69	30.0%	35.0%
70	40.0%	35.0%
71	25.0%	35.0%
72	35.0%	35.0%
73	35.0%	35.0%
74	35.0%	35.0%
75& Over	100.0%	100.0%

The age column index does not apply to service-based retirements. In ERFC 2001 Tier 1, an individual can retire at 30 years of service regardless of age. In ERFC 2001 Tier 2, and individual would be able to retire at FSSA with 5 years of service or when the sum of age and service is greater than or equal to 90. FSSA is assumed to be age 67 for members hired on/after July 1, 2017.

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Retirement Age (Terminated Vested Participants)

Members hired after July 1, 1988 but before July 1, 2001

50% at age 55, 25% at age 60, and 25% at age 65

Members hired after July 1, 2001

Age 60

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Disability rates

	Disability			
	Ordinary		Duty	
Ages	Men	Women	Men	Women
20	0.0117%	0.0048%	0.0029%	0.0012%
21	0.0117%	0.0048%	0.0029%	0.0012%
22	0.0117%	0.0048%	0.0029%	0.0012%
23	0.0142%	0.0074%	0.0036%	0.0018%
24	0.0149%	0.0081%	0.0037%	0.0020%
25	0.0146%	0.0082%	0.0036%	0.0020%
26	0.0142%	0.0082%	0.0035%	0.0021%
27	0.0140%	0.0086%	0.0035%	0.0022%
28	0.0142%	0.0094%	0.0036%	0.0024%
29	0.0149%	0.0106%	0.0037%	0.0027%
30	0.0158%	0.0122%	0.0040%	0.0031%
31	0.0171%	0.0140%	0.0043%	0.0035%
32	0.0186%	0.0158%	0.0046%	0.0040%
33	0.0202%	0.0178%	0.0050%	0.0044%
34	0.0218%	0.0196%	0.0054%	0.0049%
35	0.0234%	0.0214%	0.0059%	0.0054%
36	0.0252%	0.0232%	0.0063%	0.0058%
37	0.0271%	0.0250%	0.0068%	0.0062%
38	0.0291%	0.0268%	0.0073%	0.0067%
39	0.0314%	0.0287%	0.0078%	0.0072%
40	0.0339%	0.0308%	0.0085%	0.0077%
41	0.0367%	0.0331%	0.0092%	0.0083%
42	0.0399%	0.0357%	0.0100%	0.0089%
43	0.0435%	0.0386%	0.0109%	0.0097%
44	0.0475%	0.0419%	0.0119%	0.0105%
45	0.0520%	0.0456%	0.0130%	0.0114%
46	0.0570%	0.0498%	0.0143%	0.0124%
47	0.0626%	0.0545%	0.0157%	0.0136%
48	0.0689%	0.0598%	0.0172%	0.0149%
49	0.0760%	0.0658%	0.0190%	0.0164%
50	0.0842%	0.0726%	0.0210%	0.0181%
51	0.0842%	0.0726%	0.0210%	0.0181%
52	0.0842%	0.0726%	0.0210%	0.0181%
53	0.0842%	0.0726%	0.0210%	0.0181%
54	0.0842%	0.0726%	0.0210%	0.0181%
55	0.1469%	0.1228%	0.0367%	0.0307%
56	0.1469%	0.1228%	0.0367%	0.0307%
57	0.1469%	0.1228%	0.0367%	0.0307%
58	0.1469%	0.1228%	0.0367%	0.0307%
59	0.1469%	0.1228%	0.0367%	0.0307%
60	0.2447%	0.1770%	0.0621%	0.0443%

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Withdrawal Rates

	% of Active participants withdrawing	
Service	Males	Females
0-1	17%	16%
1-2	12%	14%
2-3	12%	13%
3-4	11%	12%
4-5	11%	12%
5-6	9%	11%
6-7	7%	10%
7-8	7%	10%
8-9	7%	8%
9-10	7%	8%
10-11	6%	7%
11-12	5%	7%
12-13	4%	6%
13-14	4%	5%
14-15	3%	5%
15-16	3%	4%
16-17	3%	3%
17-18	2%	2%
18-19	2%	2%
19-20	2%	2%
20-21	2%	2%
21-22	2%	2%
22-23	2%	2%
23-24	2%	2%
24-25	2%	2%

In addition, forfeiture occurs when a vested person separates from service and withdraws contributions thereby forfeiting future rights to an employer financed benefit. The total probability of forfeiture is obtained by multiplying the probability of withdrawal above by 10%. Forfeiture rates do not apply to individuals who are eligible for retirement at time of termination.

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Pay increase timing

Nine months after the valuation date (October 1st)

Decrement timing

Middle of year decrements, with 100% retirement occurring at beginning of year.

Surviving spouse benefit/marriage assumption

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Eligibility testing

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Administrative expenses

Future administrative expenses are assumed to remain the same percentage of payroll as actual current year administrative expenses

COLA Adjustment

Members hired prior to July 1, 2017: 3.00% (actual COLA)

Members hired on/after July 1, 2017: 2.25% (long-term estimate of provision of 100% of CPI-U capped at 4.00%)

Actuarial Value of Assets

The actuarial value of assets is determined by adjusting the fair value of plan assets as of December 31 each year to reflect investment gains and losses during each of the last 5 years at 20% per year. The resulting value is required to be within 75% and 125% of the market value of assets as of the same date.

Incidence of Contributions

Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

Actuarial Equivalence Factors (as of the date of this report)

The interest rate is 7.00% for the Option D form of payment. For Small Pension payouts the interest rate is the lesser of 7.00% or the rate for 20-years Treasury Notes raised to the next highest integer, as of the December 1st preceding the Calendar year of retirement. Mortality is based upon a 20% unisex blend of 102% of the male rates and 99% of the female rates of the PUB-2010 Teachers table projected generationally with Scale MP-2020.

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Form of Benefit

Single Life Annuity	80%
Joint & 50% Survivor Annuity	5%
Joint & 100% Survivor Annuity	15%

DROP Election

80% of those eligible for the DROP program with at least 25 years of service and who are less than age 65 are assumed to elect to enter the DROP, with the remaining 20% choosing one of the other forms of benefit. Annuity elections are consistent with those described under the Form of Benefit.

Unused Sick Leave

For members hired prior to July 1, 2001, computed liabilities and normal costs are increased by 3.25% to reflect service credit for unused sick leave that may be granted at retirement. For participants hired after July 1, 2001, an additional 0.025 years of service is assumed to accrue for each future years of credited service. Unused leave balances as of July 1, 2023 were used for participants hired after July 1, 2001 as the current balance of unused sick leave as of the valuation date. Unused sick leave is not used for retirement eligibility service.

Adjustments

Computed liabilities and normal costs for Normal and Early retirement are reduced by 0.5% to reflect a “negative subsidy” in the Plan Document option factors.

Computed liabilities for retirees that elected optional forms of benefit (with beneficiaries) are increased by 1.81% to reflect the pop-up provision.

To account for administrative expenses, 0.25% of pay was added to the otherwise computed normal cost. This amount will be adjusted each year based on actual administrative expenses during the year and pay as of the valuation date.

For terminated vested records past social security age with no commencement age provided, immediate commencement is assumed. No other adjustments for missing or incomplete data are made; all data issues are fully resolved before commencing the valuation.

The current year salary is adjusted to have the pay increase. Nine months after the valuation date (October 1st).

Actuarial cost method

Entry age normal cost method

Discount rate method

Equal to the expected return on assets

Appendix A: Actuarial Assumptions and Methods (continued)

Non-Prescribed Funding Assumptions and Methods (continued)

Changes in funding methods/assumptions since the prior year

Method changes

There have been no method changes in the funding valuation since the prior year.

Assumption changes

The retirement rates for Legacy members have been updated to reflect expected DROP election for those eligible for the program. Specifically, those with at least 25 years of service and are less than age 65 have an 80% probability of choosing to make a benefit election, with 80% assumed to enter the DROP program and the remaining 20% assumed to make an immediate annuity election.

In light of the plan amendment introducing unused sick leave for purposes of determining credited service for participants hired after July 1, 2001, we have introduced an assumption for future accruals of unused sick leave.

Appendix B: Summary of Plan Provisions

ERFC Legacy

Eligibility to Participate

ERFC members hired after July 1, 1988 but before July, 2001

Vesting Service

Vesting Service credit for all periods of service during which an employee is a contributing member of ERFC. To the extent required by federal law, they may also receive Vesting Service for periods of active-duty military service. Unused Sick Leave may not be applied to fulfill the minimum service period required for vesting. Vesting Service may not be purchased. If a member terminate employment with FCPS and elect to receive a refund or rollover of your ERFC Legacy Accumulated Contributions, they will automatically forfeit your Vesting Service.

Credited Service

Credited Service refers to the period of time in which an employee contributes to ERFC as an active FCPS employee. Credited Service may also include Military Service Credit, Unused Sick Leave, pre-1973 service and Purchased Service Credit.

Contributions

Effective July 1, 2012, members contribute 3% of their salaries. Interest credits are 5% annually through June 30, 2017 and 4% annually thereafter. If a member leaves covered employment before becoming eligible to retire, accumulated contributions are returned upon request. Members who receive a refund of contributions and are later rehired become members of ERFC 2001 Tier 2.

Eligibility for Retirement

Normal retirement

A member may retire any time after reaching the service retirement date, which is either (i) age 65 with 5 years of service or (ii) age 55 with 25 years of service.

Early retirement

A member with 25 years of service but younger than age 55 may retire after age 45. A member with less than 25 years of service and younger than age 65 may retire after age 55.

Disability retirement

An active member with 5 or more years of service who becomes totally and permanently disabled may be retired and receive a disability pension. The 5-year service requirement is waived if the disability is service-connected.

Appendix B: Summary of Plan Provisions (continued)

ERFC Legacy (continued)

Retirement benefits

Normal retirement benefit

For payment periods during the retired member's lifetime 103% times (i) minus (ii) where:

(i) means 1.85 percent of the FAC multiplied by years of credited service, and

(ii) means 1.65 percent of the portion of VRS FAC in excess of $1,200, multiplied by applicable years of creditable Virginia service; provided if the member is younger than age 65 and if creditable Virginia service is less than 30 years, the result of such multiplication shall be reduced for each month before the earlier of:

(1) attainment of age 65; and

(2) the date when 30 years of service would have been completed.

The reduction shall be one-half of 1% for each of the first 60 months and four-tenths of one percent for each month beyond 60 months, if any.

For payment periods, if any, before the age the member becomes eligible for full Social Security benefits, and additional temporary benefit equals to 103% times 1.00 percent of the FAC multiplied by years of credited service.

Early retirement benefit

Accrued benefit to early retirement date payable at normal retirement date reduced according to the following schedule:

After 25 years of service:

Service Retirement amount reduced to reflect retirement age younger than age 55.

After 5 years of service, but before 25 years of service:

For payment periods during the retired member's lifetime, the Service Retirement amount payable at age 65 reduced to reflect retirement age younger than age 65. For payment periods before the age the member becomes eligible for full Social Security benefits, an additional temporary benefit equal to the Service Retirement temporary benefit reduced to reflect retirement age younger than age 65.

Disability benefit

The amount is 103% times a lifetime pension equal to 0.25 percent of the FAC multiplied by years of credited service. Credited service shall be increased by the time-period from disability retirement to the date when the member would have reached the service retirement date. The minimum pension payable is 2.5 percent of FAC.

Vested Deferred Benefit

An inactive member with 5 or more years of service will be entitled to a pension with payments beginning at age 55, provided she/he does not withdraw accumulated member contributions. Benefits are calculated in the same manner as early retirement benefits

Final average compensation (FAC)

A member's final average compensation is the average of the 3 highest consecutive years of salary during eligible employment.

Appendix B: Summary of Plan Provisions (continued)

ERFC Legacy (continued)

Deferred Retirement Option Provisions (DROP)

ERFC members hired after July 1, 1988 but before July, 2001, who attain at least 25 years of service or age 65 with 5 years of service are eligible to enter the DROP program. The DROP program permits the member to continue to work for FCPS while their monthly benefits determined at entry to the DROP program accumulate in a hypothetical DROP account until they terminate employment. Upon exit, the member receives a distribution of their accumulated DROP account balance along with their continued monthly benefit. Monthly benefits are determined based on credited service and compensation as of the DROP entry date, and the member does not earn additional credited nor vesting service while in the DROP program. Monthly benefits are accumulated in the DROP account with interest at a rate of 4.0% per annum. A member may participate in the DROP program for up to 5 years.

Forms of Payment Normal Form

Normal form

The assumed normal form of benefit is the straight life form.

Optional forms

Option A

100% Joint and Survivor benefit. Benefit is 85% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 94% of the straight life amount.

Option B

50% Joint and Survivor benefit. Benefit is 91% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 97% of the straight life amount.

Option C

10 years Certain and Life. Benefit is 96% of the straight life amount.

Option D

Single sum payment not exceeding member's accumulated contribution balance, plus a single life annuity actuarially reduced from the pension amount otherwise payable.

Post-Retirement Increases

The amount of the monthly benefit is adjusted each March 31st, by 3% compounded annually, beginning with the March 31st which is more than three full months after the member's effective retirement date. Pensions of members that retire in the immediately preceding calendar year are increased by 1.489% (one-half a year's increase).

Appendix B: Summary of Plan Provisions (continued)

ERFC Legacy (continued)

Spouse's preretirement death benefit statutory benefits

Eligibility

An active member with 5 or more years of service who dies will have benefits payable to the surviving spouse or other eligible beneficiary. The 5-year service requirement is waived if the death is service-connected.

Amount

If the member is eligible for a service or reduced service retirement, then an eligible named beneficiary will receive such benefits reduced based upon an Option A (in the case of a spouse or an ex-spouse subject to a DRO) or Option B (in case of another eligible beneficiary) election. If not, the eligible named beneficiary will receive an amount equal to 103% times a lifetime pension equal of 0.25% of the FAC multiplied by years of credited service, and also reduced in connection with an Option A or Option B election. Credited service shall be increased by the time period from the date of death to the date when the member would have reached service retirement with a minimum of 10 years of service used, provided the death was service connected. If a named beneficiary is not eligible for either of these types of benefits, the named beneficiary will receive a refund of the member's accumulated contributions.

Alternative benefits available to members with some service before July 1, 1988

Service retirement: Alternate amount after full social security age

A member with service before 7/1/1988 may elect, at time of retirement, to receive an alternate benefit amount for payment periods after full Social Security age. The Alternative Guarantee amount is the amount that would have been received after the individual reached eligibility for full Social Security benefits under the Old Plan (pre-July 1, 1988) formulas. The amount is 103% of the total of:

(i) the amount payable under June 30, 1987 benefit provisions,

(ii) plus, if the retiring member is younger than full Social Security age and if creditable Virginia service is less than 30 years, 1.65 percent of VRS average final compensation in excess of $1,200 multiplied by years of creditable Virginia service, and further multiplied by a certain percent based upon the number of months that retirement occurs before reaching the earlier of the above two conditions; such percent is one half of one percent for each of the first 60 such months and for-tenths of one percent for each of the next 50 such months, if any.

Reduced service retirement: Alternate amount with 25 years of more years of service

By election at time of retirement, such a member may elect to receive 103% of the following combination of benefits:

(i) to age 55, 2.85 percent of the 3-year average annual salary multiplied by years of credited service, then actuarially reduced to reflect retirement age younger than age 55.

(ii) From age 55 to 65, the amount to age 55 reduced by: 1.65 percent of the portion of VRS average final compensation in excess of $1,200, multiplied by applicable years of creditable Virgina service; provided if creditable Virginia service is less than 30 years, the result of such multiplication shall be actuarially reduced for each month before the earlier of (1) attainment of age 65; and (2) the date when 30 years' service would have been completed; and

(iii) From age 65 for life, the amount payable at age 65 according to June 30, 1987 provisions or the amount payable at age 65 according the July 1, 1988 provisions.

Plan changes since the prior year

For ERFC members hired after July 1, 1988 but before July, 2001, and attained 25 years of service or age 65 with 5 years of service are now eligible for DROP benefit with the details provided above.

Appendix B: Summary of Plan Provisions (continued)

ERFC 2001 Tier 1

Eligibility to participate

Members hired on/after July 1, 2001 but before July 1, 2017 (ERFC 2001 Tier1)

Vesting Service

Vesting Service credit for all periods of service during which an employee is a contributing member of ERFC. To the extent required by federal law, a member may also receive Vesting Service for periods of active-duty military service. Unused Sick Leave may not be applied to fulfill the minimum service period required for vesting.

Credited Service

Credited Service refers to the period of time in which an employee contributes to ERFC as an active FCPS employee. Credited Service may also include Military Service Credit and Unused Sick Leave

Contributions

Effective July 1, 2012, members contribute 3% of their salaries. Interest credits are 5% annually through June 30, 2017, and 4% annually thereafter. If a member leaves covered employment before becoming eligible to retire, accumulated contributions are returned upon request. Members who receive a refund of contributions and are later rehired become members of ERFC 2001 Tier 2.

Retirement eligibility

Normal retirement

A member may retire at age 60 with 5 or more years of credited service, or after 30 years of credited service regardless of age.

Vested deferred retirement

Any member with 5 or more years of credited service who terminates employment prior to the service retirement date, will be eligible to receive a deferred vested pension commencing at age 50, provided accumulated contributions are left on deposit with the Plan.

Retirement benefits

Normal retirement benefits

The amount is a lifetime pension equal to 0.8% (eight-tenths of one percent) of FAC at retirement multiplied by years of credited service. If necessary, the pension will be increased to make the reserve value of the pension equal to the member’s accumulated contributions as of the retirement effective date.

Vested deferred retirement benefits

The amount is a lifetime pension equal to 0.8% (eight tenths of one percent) of FAC at termination multiplied by years of credited service. If necessary, the pension will be increased to make the reserve value of the pension equal to the member’s accumulated contributions as of the effective retirement date

Appendix B: Summary of Plan Provisions (continued)

ERFC 2001 Tier 1 (continued)

Final Average Compensation (FAC)

A member's Final Average Compensation is the average of the 3 highest years of salary during eligible employment.

Forms of Payment

Normal Form

The assumed normal form of benefit is the straight life form.

Optional Forms

Option A:

100% Joint and Survivor benefit. Benefit is 85% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 94% of the straight life amount.

Option B:

50% Joint and Survivor benefit. Benefit is 91% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 97% of the straight life amount.

Option C:

10 years Certain and Life. Benefit is 96% of the straight life amount.

Post-Retirement Increases

The amount of the monthly benefit is adjusted each March 31st, by 3% compounded annually, beginning with the March 31st which is more than three full months after the member's effective retirement date. Pensions of members that retire in the immediately preceding calendar year are increased by 1.489% (one-half a year's increase).

Spouse's Preretirement Death Benefit

Statutory Death Benefits

Eligibility

Any member with 5 or more years of credited service who dies before beginning to receive a pension will have benefits payable to the named beneficiary.

Amount

The amount is a lifetime pension equal to 0.8% (eight tenths of one percent) of FAC multiplied by years of credited service at the date of death. If necessary, the pension will be increased to make the reserve value of the pension equal to the member's accumulated contributions as of the date of death. The pension will be adjusted in accordance with an Option A (in the case of a spouse or an ex-spouse subject to a DRO) or Option B (in case of another eligible beneficiary) election payable immediately unless the member did not reach the service retirement eligibility prior to death, in which case the pension is reduced for each month that the member was younger than age 60 on the date of death in the following manner:

a. One-half of 1% for each of the first 60 months and four-tenths of one percent for each month beyond 60 months (the number of months used for reduction is not to exceed the difference between the member's credited service at death and 30 years).

Plan Changes Since the Prior Year

Credited service now includes unused sick leave for Tier 1 members.

Appendix B: Summary of Plan Provisions (continued)

ERFC 2001 Tier 2

Eligibility to Participate

Members hired on/after July 1, 2017 (ERFC 2001 Tier 2)

Vesting Service

Vesting Service credit for all periods of service during which an employee is a contributing member of ERFC. To the extent required by federal law, you may also receive Vesting Service for periods of active-duty military service. Unused Sick Leave may not be applied to fulfill the minimum service period required for vesting.

Credited Service

Credited Service refers to the period of time in which an employee contributes to ERFC as an active FCPS employee. Credited Service may also include Military Service Credit and Unused Sick Leave.

Contributions

Members contribute 3% of their salaries. Interest credits are 4% annually. If a member leaves covered employment before becoming eligible to retire, accumulated contributions are returned upon request.

Retirement eligibility

Normal retirement

A member may retire at Full Social Security age FSSA with 5 or more years of credited service, or when the sum of age plus service is greater than or equal to 90 (i.e., “Rule of 90”).

Vested deferred retirement

Any member with 5 or more years of credited service who terminates employment prior to the service retirement date, will be eligible to receive a deferred vested pension commencing at FSSA, provided accumulated contributions are left on deposit with the Plan.

Retirement benefits

Normal retirement benefits

The amount is a lifetime pension equal to 0.8% (eight-tenths of one percent) of FAC at retirement multiplied by years of credited service. If necessary, the pension will be increased to make the reserve value of the pension equal to the member’s accumulated contributions as of the retirement effective date.

Vested deferred retirement benefits

The amount is a lifetime pension equal to 0.8% (eight tenths of one percent) of FAC at termination multiplied by years of credited service. If necessary, the pension will be increased to make the reserve value of the pension equal to the member’s accumulated contributions as of the effective retirement date

Appendix B: Summary of Plan Provisions (continued)

ERFC 2001 Tier 2 (continued)

Forms of Payment

Normal Form

The assumed normal form of benefit is the straight life form.

Optional Forms

Before the effective retirement date, a retiring member may elect one of the following options:

Option A:

100% Joint and Survivor benefit. Benefit is 85% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 94% of the straight life amount.

Option B:

50% Joint and Survivor benefit. Benefit is 91% of the straight life amount adjusted for the difference in age between the retiree and beneficiary. The maximum benefit is 97% of the straight life amount.

Option C:

10 years Certain and Life. Benefit is 96% of the straight life amount.

Post-Retirement Increases

The amount of the monthly benefit is adjusted each March 31st, by 100% of the Consumer Price Index for all Urban Consumers (CPI-U) for the appropriate Standard Metropolitan Statistical Area (SMSA) that includes Fairfax County (with a cap 4%), compounded annually, beginning with the March 31st which is more than three full months after the member's effective retirement date. Pensions of members that retire in the immediately preceding calendar year are increased by one- half a year's increase.

Spouse's Preretirement Death Benefit

Statutory Death Benefits

Eligibility

Any member with 5 or more years of credited service who dies before beginning to receive a pension will have benefits payable to the named beneficiary.

Amount

The amount is a lifetime pension equal to 0.8% (eight tenths of one percent) of FAC multiplied by years of credited service at the date of death. If necessary, the pension will be increased to make the reserve value of the pension equal to the member's accumulated contributions as of the date of death. The pension will be adjusted in accordance with an Option A (in the case of a spouse or an ex-spouse subject to a DRO) or Option B (in case of another eligible beneficiary) election payable immediately unless the member did not reach the service retirement eligibility prior to death, in which case the pension is reduced for each month that the member was younger than age 60 on the date of death in the following manner:

One-half of 1% for each of the first 60 months and four tenths of one percent for each month beyond 60 months (the number of months used for reduction is based on the lesser of FSSA or the age the member would have attained "Rule of 90").

Plan Changes Since the Prior Year

Credited service now includes unused sick leave for Tier 2 members.

Appendix C: Projections

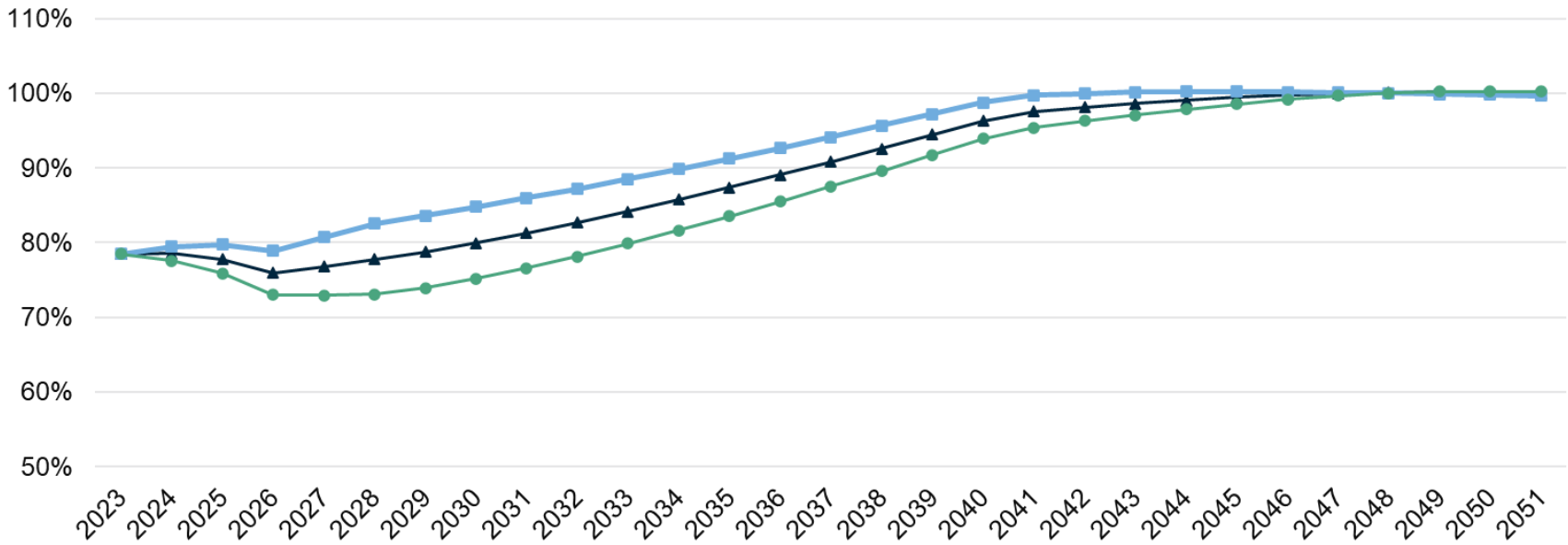
Deterministic projections simulate one scenario in the future. In the following section, we are simulating specific deterministic scenarios of a 30-year stream of funded ratios and employer contributions, adhering to the current funding policy. The projections which follow in this section are based on the data, actuarial assumptions, and actuarial methods described in this report, along with the following key projection assumptions:

- Valuation interest rate of 7.00%
- 7.00% investment return on market value of assets, unless otherwise stated
- All future demographic experience is assumed to be exactly realized, consistently with the actuarial assumptions and methods described in this report.
- The contribution rates follow the Funding Policy in effect and last amended June 24, 2022 throughout the projection period.
- 0% increase in the total active member population (including DROP members)
    - New entrant demographic information is based on the age, gender and salary of new ERFC hires over the year preceding the valuation.
- Future pay increases based on long-term salary increase assumptions
- We have shown two alternate deterministic projections.
    - The first alternate deterministic projection is based on the same assumptions as the baseline deterministic projection, except it assumed a 0.0% asset return for calendar year 2024.
    - The second alternate deterministic projection is based on the same assumptions as the baseline deterministic projection, except it assumed a 14.0% asset return for calendar year 2024.

There are a multitude of assumptions which all must be met in order for projected results to come to fruition – investment returns, employe behavior, future employee demographics, other demographic experience, etc. External factors, such as regulatory changes, would alter results as well. The purpose of these projection is to understand the sensitivities and stressors to the system under the current plan design and the modeled plan design changing only one assumption – the investment return.

Appendix C: Projections (continued)

Projected Funded Status

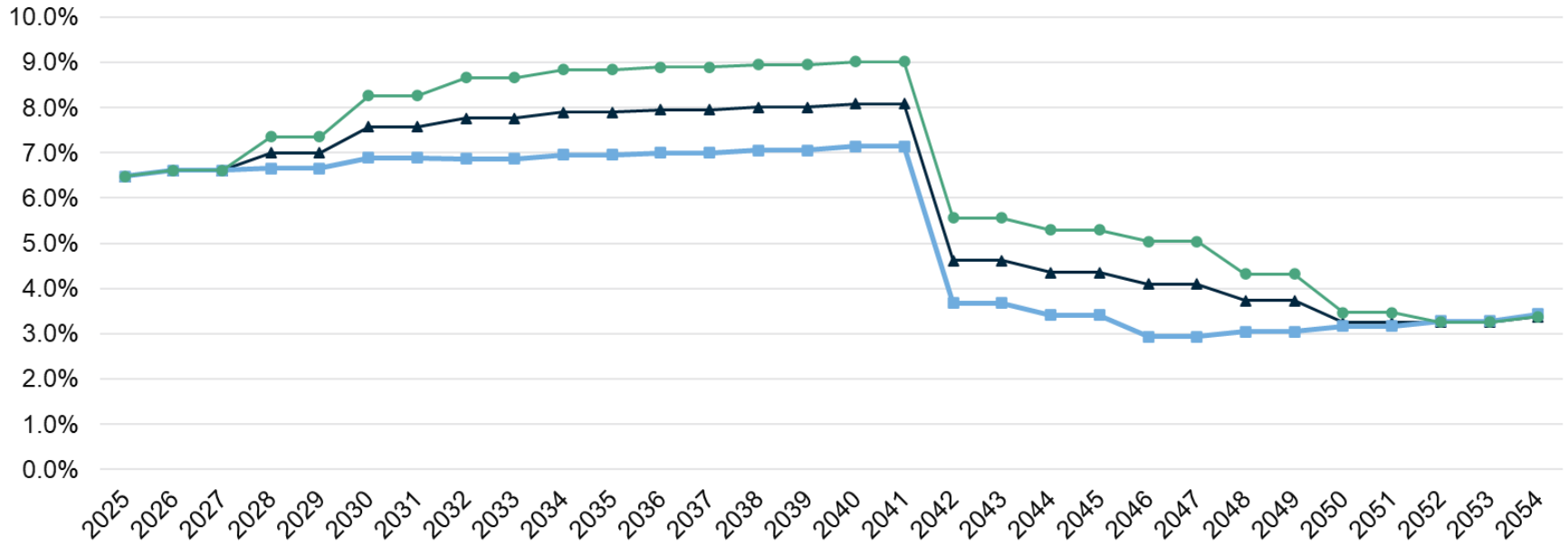


	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Current Valuation	78%	79%	78%	76%	77%	78%	79%	80%	81%	83%	84%	86%	87%	89%	91%	93%	94%	96%	98%	98%	99%	99%	99%	100%	100%	100%	100%	100%	100%
Assumed 14% Return in 2024	78%	79%	80%	79%	81%	83%	84%	85%	86%	87%	89%	90%	91%	93%	94%	96%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Assumed 0% Return in 2024	78%	78%	76%	73%	73%	73%	74%	75%	77%	78%	80%	82%	84%	86%	88%	90%	92%	94%	95%	96%	97%	98%	99%	99%	100%	100%	100%	100%	100%

All scenarios assume a 7.0% return from 2025 onward. Asset return sensitivity scenarios are modeled on varying only the 2024 return.

Appendix C: Projections (continued)

Projected Employer Contribution Rates



	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
Current Valuation	6.48%	6.61%	6.61%	7.00%	7.00%	7.58%	7.58%	7.77%	7.77%	7.90%	7.90%	7.95%	7.95%	8.01%	8.01%	8.08%	8.08%	4.62%	4.62%	4.35%	4.35%	4.11%	4.11%	3.73%	3.73%	3.25%	3.25%	3.26%	3.26%	3.38%
Assumed 14% Return in 2024	6.48%	6.61%	6.61%	6.65%	6.65%	6.89%	6.89%	6.87%	6.87%	6.96%	6.96%	7.00%	7.00%	7.06%	7.06%	7.14%	7.14%	3.68%	3.68%	3.41%	3.41%	2.94%	2.94%	3.05%	3.05%	3.17%	3.17%	3.28%	3.28%	3.44%
Assumed 0% Return in 2024	6.48%	6.61%	6.61%	7.35%	7.35%	8.27%	8.27%	8.67%	8.67%	8.84%	8.84%	8.90%	8.90%	8.95%	8.95%	9.02%	9.02%	5.56%	5.56%	5.29%	5.29%	5.05%	5.05%	4.32%	4.32%	3.47%	3.47%	3.26%	3.26%	3.38%

All scenarios assume a 7.0% return from 2025 onward. Asset return sensitivity scenarios are modeled on varying only the 2024 return.

Appendix D: Tables of Participant Data

The actuarial valuation was based on personnel information from Plan Sponsor records as of December 31, 2023. The following are some of the pertinent characteristics from the personnel data as of that date. Prior year characteristics are also provided for comparison purposes. Both age and service have been determined using years and months as of the valuation date.

	December 31, 2022	December 31, 2023
Active participants		
Number	22,916	23,093
Average age	44.7 years	45.0 years
Average service	9.7 years	9.8 years
Average Reported Salary Rate	$ 78,138	$ 81,460
Inactive Owed Deferred Payments		
Number	5,991	6,243
Average age	45.8 years	46.2 years
Average monthly retirement benefits[1]	$ 4,062	$ $4,270
Inactive Receiving Payments		
Number	13,747	14,098
Average age	73.0 years	73.2 years
Average annual retirement benefits	$ 14,304	$ 14,471
Inactive Owed a Refund		
Number	76	1,345
Average age	39.0 years	37.1 years
Average accumulated contributions	$ 10,817	$ 4,820
Total Number of Participants	42,730	44,779

[1] Before adjustment for assumed retirement age and payment form.

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 1: ERFC Legacy Members - WOMEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
35-39	0	0	0	0	0	0	0	0	$ -	$ -
40-44	1	0	0	1	4	0	0	6	585,792	97,632
45-49	2	8	32	45	228	65	0	380	42,471,796	111,768
50-54	4	15	42	67	233	255	40	656	74,593,236	113,709
55-59	0	17	43	40	164	113	46	423	44,650,431	105,557
60	0	0	5	2	47	16	2	72	7,295,101	101,321
61	0	3	1	5	30	10	6	55	5,228,251	95,059
62	0	1	1	3	30	20	7	62	5,559,315	89,666
63	1	1	0	3	14	18	10	47	4,725,911	100,551
64	0	0	3	6	22	18	1	50	4,600,383	92,008
65	0	0	2	1	6	9	4	22	1,972,743	89,670
66	0	0	1	1	10	8	3	23	2,140,601	93,070
67	0	0	1	1	7	4	3	16	1,402,231	87,639
68	0	0	0	2	7	4	9	22	2,089,029	94,956
69	0	0	0	0	8	5	3	16	1,479,308	92,457
70	0	0	0	0	6	2	1	9	711,698	79,078
71	0	0	0	0	6	3	2	11	842,307	76,573
72	0	0	0	0	1	1	3	5	393,847	78,769
73	0	0	0	0	2	2	2	6	565,659	94,277
74	0	0	0	0	1	1	2	4	388,394	97,098
75 & Over	0	0	1	1	5	1	3	11	1,024,848	93,168
Totals	8	45	132	178	831	555	147	1,896	$ 202,720,880	$ 106,920

Age (Years):	55.4
Service (Years):	23.4
Annual Pay	$ 106,920

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 2: ERFC Legacy Members - MEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
35-39	0	0	0	0	0	0	0	0	$ -	$ -
40-44	0	0	0	0	2	0	0	2	151,215	75,607
45-49	0	2	0	6	70	17	0	95	11,515,698	121,218
50-54	0	1	4	3	81	123	20	232	28,664,862	123,555
55-59	0	0	0	2	56	50	13	121	13,916,789	115,015
60	0	0	0	2	6	9	1	18	2,058,056	114,336
61	1	0	1	1	8	7	1	19	2,077,274	109,330
62	0	0	0	0	7	5	0	12	1,191,854	99,321
63	0	0	0	0	5	8	5	18	1,844,282	102,460
64	0	0	0	1	3	3	3	10	1,080,309	108,031
65	0	0	0	0	2	1	2	5	496,765	99,353
66	0	0	1	0	4	1	0	6	682,688	113,781
67	0	0	0	0	2	1	2	5	636,588	127,318
68	0	0	0	0	1	2	1	4	444,502	111,126
69	0	0	0	0	0	1	0	1	130,292	130,292
70	0	0	1	0	0	0	0	1	92,049	92,049
71	0	0	0	0	1	0	1	2	193,689	96,845
72	0	0	0	0	0	0	0	0	-	-
73	0	0	0	0	0	0	2	2	237,203	118,602
74	0	0	0	0	1	0	0	1	107,981	107,981
75 & Over	0	2	0	0	1	1	3	7	755,944	107,992
Totals	1	5	7	15	250	229	54	561	$ 66,278,039	$ 118,143

Age (Years):	55.2
Service (Years):	25.5
Annual Pay	$ 118,143

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 3: ERFC 2001 Tier 1 Members - WOMEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
20-24	0	0	0	0	0	0	0	0	$ -	$ -
25-29	0	30	1	0	0	0	0	31	2,164,932	69,837
30-34	15	626	236	0	0	0	0	877	69,333,895	79,058
35-39	16	369	774	160	1	0	0	1,320	115,583,343	87,563
40-44	35	315	477	620	112	0	0	1,559	150,385,807	96,463
45-49	18	351	287	345	224	0	0	1,225	118,264,456	96,542
50-54	16	344	375	320	158	0	0	1,213	109,615,347	90,367
55-59	11	271	357	351	113	0	0	1,103	91,607,550	83,053
60	2	57	67	65	27	0	0	218	16,973,544	77,860
61	0	43	52	62	28	0	0	185	14,890,882	80,491
62	2	28	44	50	28	0	0	152	11,726,899	77,151
63	3	23	26	57	18	0	0	127	9,858,313	77,625
64	1	16	31	41	36	0	0	125	10,504,242	84,034
65	0	16	32	26	17	0	0	91	7,009,402	77,026
66	0	10	13	20	14	0	0	57	4,889,669	85,784
67	0	8	8	15	5	0	0	36	2,909,650	80,824
68	0	3	5	12	5	0	0	25	1,667,078	66,683
69	0	1	7	13	6	0	0	27	1,934,373	71,643
70	0	2	2	10	5	0	0	19	1,343,598	70,716
71	0	1	1	6	0	0	0	8	669,773	83,722
72	1	1	2	2	0	0	0	6	379,176	63,196
73	0	3	3	3	3	0	0	12	966,511	80,543
74	0	1	1	3	2	0	0	7	463,818	66,260
75 & Over	0	2	3	2	2	0	0	9	460,152	51,128
Totals	120	2,521	2,804	2,183	804	0	0	8,432	$ 743,602,410	$ 88,188

Age (Years):	47.6
Service (Years):	13.0
Annual Pay	$ 88,188

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 4: ERFC 2001 Tier 1 Members - MEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
20-24	0	0	0	0	0	0	0	0	$ -	$ -
25-29	0	2	0	0	0	0	0	2	108,958	54,479
30-34	3	136	37	0	0	0	0	176	13,949,267	79,257
35-39	3	126	197	33	0	0	0	359	31,324,020	87,254
40-44	3	89	148	210	35	0	0	485	48,152,658	99,284
45-49	1	68	70	135	108	0	0	382	39,846,096	104,309
50-54	4	53	68	96	82	0	0	303	31,813,699	104,996
55-59	3	56	42	83	47	0	0	231	22,984,621	99,501
60	0	10	12	13	4	0	0	39	3,808,899	97,664
61	0	6	12	5	2	0	0	25	2,381,890	95,276
62	0	4	6	11	7	0	0	28	2,937,317	104,904
63	0	6	7	16	2	0	0	31	3,170,451	102,273
64	0	7	7	13	2	0	0	29	2,705,665	93,299
65	0	6	5	12	4	0	0	27	2,747,895	101,774
66	0	4	5	1	3	0	0	13	1,392,998	107,154
67	0	1	4	3	1	0	0	9	821,952	91,328
68	0	4	2	1	0	0	0	7	528,226	75,461
69	0	2	2	5	0	0	0	9	731,829	81,314
70	0	5	0	2	2	0	0	9	758,584	84,287
71	0	2	3	2	0	0	0	7	515,817	73,688
72	0	1	1	0	1	0	0	3	311,958	103,986
73	0	0	1	1	0	0	0	2	152,676	76,338
74	0	0	1	0	0	0	0	1	41,536	41,536
75 & Over	0	1	1	3	0	0	0	5	483,920	96,784
Totals	17	589	631	645	300	0	0	2,182	$ 211,670,932	$ 97,008

Age (Years):	47.2
Service (Years):	13.9
Annual Pay	$ 97,008

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Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 5: ERFC 2001 Tier 2 Members - WOMEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
15-19	7	0	0	0	0	0	0	7	$ 199,168	$ 28,453
20-24	604	0	0	0	0	0	0	604	31,327,065	51,866
25-29	1,483	199	0	0	0	0	0	1,682	103,699,946	61,653
30-34	800	296	0	0	0	0	0	1,096	71,884,131	65,588
35-39	733	166	0	0	0	0	0	899	60,179,225	66,940
40-44	858	170	0	0	0	0	0	1,028	68,272,143	66,413
45-49	763	186	0	0	0	0	0	949	63,406,832	66,814
50-54	663	197	0	0	0	0	0	860	56,692,043	65,921
55-59	385	131	0	0	0	0	0	516	33,971,616	65,836
60	69	22	0	0	0	0	0	91	6,212,627	68,271
61	54	17	0	0	0	0	0	71	4,864,456	68,513
62	40	15	0	0	0	0	0	55	3,455,735	62,832
63	23	8	0	0	0	0	0	31	1,864,055	60,131
64	24	12	0	0	0	0	0	36	2,651,572	73,655
65	21	8	0	0	0	0	0	29	1,636,362	56,426
66	11	8	0	0	0	0	0	19	1,327,128	69,849
67	11	6	0	0	0	0	0	17	1,064,417	62,613
68	2	2	0	0	0	0	0	4	311,704	77,926
69	1	2	0	0	0	0	0	3	196,324	65,441
70	4	0	0	0	0	0	0	4	153,983	38,496
71	3	3	0	0	0	0	0	6	378,436	63,073
72	3	2	0	0	0	0	0	5	342,788	68,558
73	3	0	0	0	0	0	0	3	238,515	79,505
74	2	0	0	0	0	0	0	2	94,802	47,401
75 & Over	3	1	0	0	0	0	0	4	303,343	75,836
Totals	6,570	1,451	0	0	0	0	0	8,021	$ 514,728,418	$ 64,173

Age (Years):	39.6
Service (Years):	2.7
Annual Pay	$ 64,173

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 6: ERFC 2001 Tier 2 Members - MEN Active Members in December 31, 2023 Valuation by Attained Age and Years of Service

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
15-19	5	0	0	0	0	0	0	5	$ 139,494	$ 27,899
20-24	119	0	0	0	0	0	0	119	5,549,194	46,632
25-29	344	41	0	0	0	0	0	385	21,973,368	57,074
30-34	265	79	0	0	0	0	0	344	22,704,822	66,002
35-39	205	63	0	0	0	0	0	268	20,258,713	75,592
40-44	154	49	0	0	0	0	0	203	16,214,192	79,873
45-49	159	38	0	0	0	0	0	197	17,015,504	86,373
50-54	134	34	0	0	0	0	0	168	14,083,484	83,830
55-59	133	20	0	0	0	0	0	153	12,234,743	79,966
60	22	5	0	0	0	0	0	27	1,999,174	74,043
61	17	6	0	0	0	0	0	23	1,538,139	66,876
62	21	4	0	0	0	0	0	25	1,904,424	76,177
63	13	2	0	0	0	0	0	15	1,464,080	97,605
64	19	3	0	0	0	0	0	22	1,664,504	75,659
65	11	2	0	0	0	0	0	13	1,055,877	81,221
66	5	3	0	0	0	0	0	8	697,875	87,234
67	4	1	0	0	0	0	0	5	282,054	56,411
68	1	2	0	0	0	0	0	3	143,217	47,739
69	4	0	0	0	0	0	0	4	162,882	40,720
70	2	0	0	0	0	0	0	2	203,617	101,808
71	2	1	0	0	0	0	0	3	210,867	70,289
72	1	0	0	0	0	0	0	1	100,736	100,736
73	3	0	0	0	0	0	0	3	174,065	58,022
74	3	0	0	0	0	0	0	3	260,810	86,937
75 & Over	1	1	0	0	0	0	0	2	107,691	53,846
Totals	1,647	354	0	0	0	0	0	2,001	$ 142,143,524	$ 71,036

Age (Years):	40.2
Service (Years):	2.6
Annual Pay	$ 71,036

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 7

Age Group	Years of Completed Service at Valuation Date								Annual Pay	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total	Total Salary	Average Salary
15-19	12	0	0	0	0	0	0	12	$ 338,662	$ 28,222
20-24	723	0	0	0	0	0	0	723	36,876,259	51,005
25-29	1,827	272	1	0	0	0	0	2,100	127,947,205	60,927
30-34	1,083	1,137	273	0	0	0	0	2,493	177,872,117	71,349
35-39	957	724	971	193	1	0	0	2,846	227,345,300	79,882
40-44	1,051	623	625	831	153	0	0	3,283	283,761,807	86,434
45-49	943	653	389	531	630	82	0	3,228	292,520,382	90,620
50-54	821	644	489	486	554	378	60	3,432	315,462,669	91,918
55-59	532	495	442	476	380	163	59	2,547	219,365,750	86,127
60	93	94	84	82	84	25	3	465	38,347,402	82,468
61	72	75	66	73	68	17	7	378	30,980,892	81,960
62	63	52	51	64	72	25	7	334	26,775,543	80,166
63	40	40	33	76	39	26	15	269	22,927,093	85,231
64	44	38	41	61	63	21	4	272	23,206,674	85,319
65	32	32	39	39	29	10	6	187	14,919,045	79,781
66	16	25	20	22	31	9	3	126	11,130,957	88,341
67	15	16	13	19	15	5	5	88	7,116,891	80,874
68	3	11	7	15	13	6	10	65	5,183,757	79,750
69	5	5	9	18	14	6	3	60	4,635,008	77,250
70	6	7	3	12	13	2	1	44	3,263,527	74,171
71	5	7	4	8	7	3	3	37	2,810,889	75,970
72	5	4	3	2	2	1	3	20	1,528,505	76,425
73	6	3	4	4	5	2	4	28	2,334,630	83,380
74	5	1	2	3	4	1	2	18	1,357,339	75,408
75 & Over	4	7	5	6	8	2	6	38	3,135,899	82,524
Totals	8,363	4,965	3,574	3,021	2,185	784	201	23,093	$ 1,881,144,203	$ 81,460

	Legacy	Tier 1	Tier 2	Total
Age (Years):	55.4	47.5	39.7	45.0
Service (Years):	23.9	13.2	2.6	9.8
Annual Pay	$ 109,483	$ 90,001	$ 65,543	$ 81,460

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Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 8: Active Members by Years of Service as of December 31, 2023

Service Years	Number of Members			Annual Pay	
	Males	Females	Total	Total Salary	Average Salary
0	488	1,915	2,403	$ 140,933,923	$ 58,649
1	430	1,725	2,155	130,979,204	60,779
2	331	1,236	1,567	103,969,505	66,349
3	198	870	1,068	74,624,307	69,873
4	218	952	1,170	82,045,915	70,125
5	213	901	1,114	83,016,643	74,521
6	189	837	1,026	77,420,134	75,458
7	214	821	1,035	80,645,135	77,918
8	188	846	1,034	82,313,269	79,607
9	144	612	756	62,587,602	82,788
10	139	707	846	71,733,360	84,791
11	152	689	841	73,596,528	87,511
12	150	654	804	71,972,552	89,518
13	118	476	594	53,746,268	90,482
14	79	410	489	44,946,754	91,916
15	108	466	574	55,434,426	96,576
16	121	504	625	59,444,293	95,111
17	126	474	600	58,556,538	97,594
18	157	480	637	63,595,750	99,836
19	148	437	585	60,628,560	103,639
20	111	361	472	50,616,223	107,238
21	101	305	406	42,738,543	105,267
22	114	373	487	52,917,833	108,661
23	117	321	438	47,090,628	107,513
24	107	275	382	41,980,498	109,897
25	68	188	256	28,683,118	112,043
26	48	120	168	18,892,294	112,454
27	42	99	141	16,632,579	117,962
28	35	69	104	12,712,315	122,234
29	36	79	115	13,539,120	117,731
30 & Over	54	147	201	23,150,384	115,176
Totals	4,744	18,349	23,093	$1,881,144,203	$ 81,460

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 9: Persons in Valuation - Comparative Statement - Active Members

Valuation Date	Number				Average Pay	Annual Increase in Average Pay		Price Inflation (CPI-U)*[1] Last Year
	ERFC Legacy	ERFC 2001 Tier 1	ERFC 2001 Tier 2	Total		Last Year	Last 5 Years	
2/28/1974	7,429			7,429	$13,087			
2/28/1975	8,075			8,075	13,693			
2/28/1976	8,609			8,609	15,929			
2/29/1980	8,990			8,990	18,901			
6/30/1983	9,359			9,359	24,104			
6/30/1985	9,596			9,596	26,229			
6/30/1986	10,084			10,084	27,523	4.90%		1.80%
6/30/1987	10,560			10,560	28,887	5.00%		3.70%
6/30/1988	10,727			10,727	31,784	10.00%		4.00%
6/30/1989	11,019			11,019	33,540	5.50%		5.20%
6/30/1990	11,539			11,539	35,702	6.40%	6.40%	4.70%
6/30/1991	12,313			12,313	36,699	2.80%	5.90%	4.70%
6/30/1992	12,308			12,308	36,356	(0.90%)	4.70%	3.10%
6/30/1993	12,330			12,330	36,539	0.50%	2.80%	3.00%
6/30/1994	12,873			12,873	37,365	2.30%	2.20%	2.50%
6/30/1995	13,287			13,287	39,215	5.00%	1.90%	3.00%
6/30/1996	13,110			13,110	40,508	3.30%	2.00%	2.80%
6/30/1997	13,473			13,473	41,098	1.50%	2.50%	2.30%
6/30/1998	13,806			13,806	42,210	2.70%	2.90%	1.70%
6/30/1999	14,449			14,449	43,326	2.60%	3.00%	2.00%
6/30/2000	15,050			15,050	45,112	4.10%	2.80%	3.70%
6/30/2001	15,955			15,955	47,628	5.60%	3.30%	3.20%
6/30/2002	15,363	711		16,074	48,635	2.10%	3.40%	1.10%
6/30/2003	13,934	3,804		17,738	48,850	0.40%	3.00%	2.10%
12/31/2004	11,856	6,864		18,720	52,234	6.90%	3.80%	3.30%
12/31/2005	10,895	8,186		19,081	55,040	5.40%	4.10%	3.40%
12/31/2006	10,065	9,306		19,371	57,396	4.30%	3.80%	2.50%
12/31/2007	9,350	10,249		19,599	59,260	3.20%	4.00%	4.10%
12/31/2008	8,791	10,940		19,731	61,383	3.60%	4.70%	0.10%
12/31/2009	8,417	11,474		19,891	60,736	(1.10%)	3.10%	2.70%
12/31/2010	7,900	12,241		20,141	59,148	(2.60%)	1.40%	1.50%
12/31/2011	7,353	13,623		20,976	59,448	0.50%	0.70%	3.00%
12/31/2012	6,801	14,718		21,519	60,297	1.40%	0.30%	1.70%
12/31/2013	6,221	15,422		21,643	61,004	1.20%	(0.10%)	1.50%
12/31/2014	5,754	15,598		21,352	62,774	2.90%	0.70%	0.80%
12/31/2015	5,292	16,293		21,585	63,613	1.30%	1.50%	0.70%
12/31/2016	4,892	16,856		21,748	66,056	3.80%	2.10%	2.10%
12/31/2017	4,488	15,629	1,724	21,841	67,554	2.30%	2.30%	2.10%
12/31/2018	4,115	14,451	3,482	22,048	70,510	4.37%	2.93%	1.90%
12/31/2019	3,761	13,533	4,882	22,176	73,612	4.40%	3.23%	2.30%
12/31/2020	3,408	12,920	6,032	22,360	73,053	(0.76%)	2.82%	1.40%
12/31/2021	3,019	12,035	7,275	22,329	74,468	1.94%	2.45%	7.00%
12/31/2022	2,752	11,331	8,833	22,916	78,138	4.93%	2.98%	6.50%
12/31/2023	2,457	10,614	10,022	23,093	81,460	4.25%	2.95%	3.40%

[1] For this purpose, we are displaying the CPI-U for All Urban Consumers (U.S. City Average). This is a different table than that used to determine Tier 2 COLA amounts.

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Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 10: Persons in Valuation - Comparative Statement - Retirees and Beneficiaries

Valuation Date	Number	Average Annual Benefit	Total Benefits	Active Member Payroll	Total Benefits as % of Payroll
2/28/1974	0	$ -	$ -	$ 97,221,025	
2/28/1975	195	3,463	675,344	110,571,258	0.61%
2/28/1976	456	3,270	1,491,310	137,131,905	1.09%
2/29/1980	1,012	4,238	4,288,395	169,924,320	2.52%
6/30/1983	1,448	5,136	7,437,571	225,592,433	3.30%
6/30/1985	1,823	6,220	11,339,462	251,691,261	4.51%
6/30/1986	2,047	6,614	13,539,032	277,545,288	4.88%
6/30/1987	2,232	7,007	15,639,820	305,050,734	5.13%
6/30/1988	2,425	7,629	18,502,289	340,945,603	5.43%
6/30/1989	2,679	8,671	23,230,719	369,574,756	6.29%
6/30/1990	2,932	9,354	27,428,027	411,970,032	6.66%
6/30/1991	3,209	10,146	32,559,349	451,872,668	7.21%
6/30/1992	3,311	10,960	36,289,308	447,473,936	8.11%
6/30/1993	3,486	11,307	39,417,339	450,530,273	8.75%
6/30/1994	3,775	11,285	42,600,996	480,995,439	8.86%
6/30/1995	3,927	11,529	45,274,131	521,044,021	8.69%
6/30/1996	4,225	11,843	50,036,473	531,060,397	9.42%
6/30/1997	4,478	11,908	53,322,514	553,709,472	9.63%
6/30/1998	4,773	12,156	58,018,744	582,754,912	9.96%
6/30/1999	5,113	12,383	63,312,850	626,015,364	10.11%
6/30/2000	5,344	13,201	70,548,074	678,937,233	10.39%
6/30/2001	5,766	13,167	75,922,636	759,905,510	9.99%
6/30/2002	6,375	13,645	86,985,606	781,756,005	11.13%
6/30/2003	6,729	14,493	97,522,562	866,501,799	11.25%
12/31/2004	7,430	14,767	110,029,000	977,817,281	11.25%
12/31/2005	7,710	15,077	116,242,812	1,050,216,544	11.07%
12/31/2006	8,029	15,370	123,402,840	1,111,827,576	11.10%
12/31/2007	8,354	15,598	130,307,079	1,161,431,668	11.22%
12/31/2008	8,595	15,631	134,346,260	1,211,140,009	11.09%
12/31/2009	8,772	15,697	137,692,304	1,208,092,606	11.40%
12/31/2010	9,081	15,677	142,366,660	1,191,290,190	11.95%
12/31/2011	9,467	15,707	148,697,364	1,246,973,240	11.92%
12/31/2012	9,788	15,594	152,634,070	1,297,536,507	11.76%
12/31/2013	10,156	15,193	154,304,935	1,320,308,508	11.69%
12/31/2014	10,524	14,893	156,735,926	1,340,343,666	11.69%
12/31/2015	10,937	14,649	160,215,262	1,373,095,719	11.67%
12/31/2016	11,367	14,356	163,189,230	1,436,587,994	11.36%
12/31/2017	11,729	14,308	167,821,309	1,475,449,186	11.37%
12/31/2018	12,101	14,201	171,843,676	1,554,614,462	11.05%
12/31/2019	12,482	14,158	176,679,304	1,632,427,309	10.82%
12/31/2020	12,842	14,191	182,235,043	1,633,457,804	11.16%
12/31/2021	13,338	14,318	190,958,236	1,662,801,220	11.48%
12/31/2022	13,747	14,304	196,634,792	1,790,601,219	10.98%
12/31/2023	14,098	14,471	204,005,902	1,881,144,203	10.84%

	Average					
	All Retirees			2023 Retirees		
	At Retirement		Current Monthly Benefit	At Retirement		Current Monthly Benefit
	Age	Service		Age	Service	
ERFC Legacy	59.5	23.7	$ 1,369	59.7	26.2	$ 2,247
ERFC 2001 Tier 1	63.6	11.6	$ 556	63.7	14.0	$ 688
ERFC Tier 2	67.8	5.7	$ 241	67.8	5.7	$ 242

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 11: ERFC Legacy - Original Benefit Formulas (Before July 1, 1988) Retirees and Beneficiaries as of December 31, 2023 by Type of Benefit Being Paid

Type of Pension Being Paid	Number	Annual Payable for Life	Annual Temporary Supplement	Annual Current Benefits
Age and Service - Normal				
Straight Life	59	1,700,252	0	1,700,252
Optional Form	6	159,721	0	159,721
Age and Service - Early				
Straight Life	177	3,804,749	0	3,804,749
Optional Form	9	223,331	0	223,331
Age and Service Totals	251	5,888,053	0	5,888,053
Duty Disability				
Straight Life	2	76,301	0	76,301
Non-Duty Disability				
Straight Life	12	187,107		187,107
Age and Service Survivor				
Beneficiary, Duty Death, and Non-Duty Death	19	245,474	0	245,474
Other Totals	33	508,882	0	508,882
Total Benefits	284	6,396,935	0	6,396,935

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 12: ERFC Legacy - Benefit Formulas Effective July 1, 1998 Retirees and Beneficiaries as of December 31, 2023 by Type of Benefit Being Paid

Type of Pension Being Paid	Number	Annual Payable for Life	Annual Temporary Supplement	Annual Current Benefits
Age and Service - Normal				
Straight Life	5,444	90,612,777	20,853,255	111,466,032
Optional Form	1,071	16,727,788	4,175,827	20,903,615
Age and Service - Early				
Straight Life	3,687	29,715,626	9,557,600	39,273,226
Optional Form	423	3,535,594	951,638	4,487,232
Age and Service Totals	10,625	140,591,785	35,538,320	176,130,105
Duty Disability				
Straight Life	9	37,795	0	37,795
Optional Form	2	11,457	0	11,457
Non-Duty Disability				
Straight Life	94	528,883	0	528,883
Optional Form	11	56,156	0	56,156
Age and Service Survivor Beneficiary, Duty Death, and Non-Duty Death	237	1,818,833	94,171	1,913,004
Other Totals	353	2,453,124	94171.08	2,547,295
Total Benefits	10,978	143,044,908	35,632,491	178,677,400

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 13: ERFC 2001 Tier 1 - Retirees and Beneficiaries as of December 31, 2023 by Type of Benefit Being Paid

Type of Pension Being Paid	Number	Annual Payable for Life	Annual Temporary Supplement	Annual Current Benefits
Age and Service - Normal				
Straight Life	2,132	14,312,169	0	14,312,169
Optional Form	684	4,524,437	0	4,524,437
Age and Service - Early				
Straight Life	0	0	0	0
Optional Form	0	0	0	0
Age and Service Totals	2,816	18,836,606	0	18,836,606
Disability				
Straight Life	8	38,491	0	38,491
Age and Service Survivor Beneficiary, Duty Death, and Non-Duty Death	9	47,776	0	47,776
Other Totals	17	86,267	0	86,267
Total Benefits	2,833	18,922,873	0	18,922,873

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 14: ERFC 2001 Tier 2 - Retirees and Beneficiaries as of December 31, 2023 by Type of Benefit Being Paid

Type of Pension Being Paid	Number	Annual Payable for Life	Annual Temporary Supplement	Annual Current Benefits
Age and Service - Normal				
Straight Life	2	5,517	0	5,517
Optional Form	1	3,179	0	3,179
Age and Service - Early				
Straight Life				
Optional Form				
Age and Service Totals	3	8,695	0	8,695
Disability				
Straight Life	0	0	0	0
Age and Service Survivor Beneficiary, Duty Death, and Non-Duty Death	0	0	0	0
Other Totals	0	0	0	0
Total Benefits	3	8,695	0	8,695

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 15: ERFC Legacy - Original Benefit Formulas (Before July 1, 1988) Retirees and Beneficiaries as of December 31, 2023 by Current Annual Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
70	1	$ 19,047
71	0	0
72	1	12,790
73	1	21,426
74	0	0
75	1	24,259
76	0	0
77	1	41,382
78	3	64,064
79	2	34,008
80-84	18	285,999
85-89	125	3,158,295
90 & Up	131	2,735,666
Total	284	$ 6,396,935

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 16: ERFC Legacy - Benefit Formulas Effective July 1, 1998 Retirees and Beneficiaries as of December 31, 2023 by Current Annual Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
Under 40	1	$ 3,697
40-44	1	2,795
45	1	3,382
46	2	7,400
47	4	16,484
48	1	29,455
49	6	137,496
50	4	118,011
51	6	169,494
52	9	258,642
53	20	740,926
54	34	1,160,682
55	76	2,491,869
56	91	2,632,035
57	113	3,581,176
58	106	3,516,286
59	142	4,651,488
60	147	4,437,121
61	185	5,622,270
62	182	5,238,237
63	205	5,587,727
64	207	6,282,618
65	296	8,386,225
66	331	6,996,811
67	339	3,975,051
68	359	4,210,282
69	443	5,032,472
70-74	2,520	30,431,519
75-79	2,669	36,538,150
80 & Up	2,478	36,417,600
Total	10,978	$ 178,677,400

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 17: ERFC 2001 Tier 1 - Retirees and Beneficiaries as of December 31, 2023 by Current Annual Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
Under 40	0	$ -
40-44	1	1,277
45	0	0
46	0	0
47	0	0
48	0	0
49	0	0
50	1	6,867
51	0	0
52	0	0
53	1	4,304
54	1	10,810
55	1	6,756
56	5	17,404
57	2	4,207
58	6	23,974
59	10	41,834
60	96	639,770
61	128	887,129
62	158	1,078,886
63	161	1,110,092
64	167	1,204,590
65	153	1,062,033
66	209	1,601,823
67	215	1,478,675
68	204	1,455,525
69	195	1,372,607
70-74	757	4,893,218
75-79	311	1,773,400
80 & Up	51	247,692
Total	2,833	$ 18,922,873

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 18: ERFC 2001 Tier 2 - Retirees and Beneficiaries as of December 31, 2023 by Current Annual Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
Under 65		$ -
66		
67		
68	3	8,695
69		
70 & Up		
Totals	3	$ 8,695

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 19: ERFC Legacy - Benefit Formulas Inactive Vested Members as of December 31, 2023 by Annual Deferred Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
Under 45	2	$ 10,218
45	36	128,538
46	48	133,189
47	64	230,095
48	66	265,425
49	93	231,111
50	92	357,152
51	95	324,565
52	110	391,749
53	112	403,301
54	98	351,574
55	76	363,407
56	67	242,690
57	60	240,850
58	51	263,534
59	44	156,845
60	35	220,925
61	28	126,214
62	24	154,497
63	27	153,041
64	24	152,407
65 & Up	69	168,601
Totals	1,321	$ 5,069,928

Appendix D: Tables of Participant Data (continued)

Population Statistics – Exhibit 20: ERFC 2001 Tier 1 - Inactive Vested Members as of December 31, 2023 by Annual Deferred Benefits - Tabulated by Attained Ages

Attained Ages	Number	Annual Amount
Under 27	0	$ -
27	0	0
28	1	2,491
29	14	38,616
30	64	194,356
31	75	219,518
32	118	391,510
33	163	551,834
34	191	653,758
35	202	731,728
36	235	909,560
37	230	849,565
38	218	877,493
39	234	954,518
40	266	1,144,583
41	245	1,047,735
42	262	1,089,862
43	258	1,200,732
44	269	1,257,440
45	207	965,967
46	160	710,736
47	123	583,842
48	130	688,091
49	106	558,718
50	105	534,507
51	87	479,070
52	114	581,879
53	86	409,168
54	93	528,041
55	86	482,480
56	95	558,326
57	85	463,652
58	98	581,452
59	100	568,437
60	45	167,868
61	42	161,773
62	30	132,007
63	29	110,459
64	11	43,206
65 & Up	38	131,488
Totals	4,915	$ 21,556,467

Appendix E: Risk Information

Funding future retirement benefits prior to when those benefits become due involves assumptions regarding future economic and demographic experience. These assumptions are applied to calculate actuarial liabilities, current contribution requirements and the funded status of the plan. However, to the extent future experience deviates from the assumptions used, variations will occur in these calculated values. These variations create risk to the plan. Understanding the risks to the funding of the plan is important.

Actuarial Standard of Practice No. 51 ("ASOP 51") requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions. Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience. It is important to note that not all risk is negative, but all risk should be understood and accepted based on knowledge, judgement and educated decisions. Future measurements may deviate in ways that produce positive or negative financial impacts to the plan.

In the actuaries' professional judgment, the following risks may reasonably be anticipated to significantly affect the System's future financial condition and contribution requirements.

- Investment Risk – The potential that the investment return will differ from the rate assumed in the actuarial valuation.
- Long-term return on investment risk – potential that changes in long-term capital market assumptions or the System's asset allocation will create the need to update the long-term return on investment assumption
- Longevity Risk – The potential that members' lifespans will differ from those projected under valuation mortality assumptions.
- Salary Increase Risk – The potential that future salaries will differ from the pattern assumed in the actuarial valuation.

The following information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the System. This list is not all-inclusive. It is an attempt to identify the more significant risks and how those risks might affect the results shown in this report.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the plan sponsor to make contributions to the System when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or to provide guidance on the management or reduction of risk.

Investment Risk

System costs are sensitive to the market return on assets. Returns below those assumed will increase costs. The System uses an actuarial value of assets that smooths gains and losses on market returns over a 5-year period to help control some of the volatility in costs due to investment risk.

The System invests in a diversified portfolio of assets with the objective of maximizing investment returns at a reasonable level of risk. Actuarial Standard of Practice No. 4 (ASOP 4) requires the actuary to disclose a Low-Default-Risk Obligation Measure (LDROM) of the plan's liability and provide commentary to help the intended users of this report understand the significance of the LDROM with respect to funded status, contributions, and participant benefit security.

The LDROM is based on discount rates derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future. The LDROM shown here represents what the System's liability would be if it invested its assets solely in a portfolio of high-quality bonds whose cash flows approximately match future benefit payments. Consequently, the difference between the LDROM and the actuarial accrued liability represents the taxpayer savings from investing in a diversified portfolio of assets versus only investing in high-quality bonds. Furthermore, this difference also represents the cost of reducing investment risk.

Appendix E: Risk Information (continued)

As of December 31, 2023, the LDROM is $5,450,795,938 based on an interest rate of 5.26%. The interest rate used for the LDROM was determined by calculating a single equivalent discount rate using projected benefit payments and the Gallagher Above Median Yield Curve as of December 31, 2023. Please note that the interest rate used for the LDROM is based on bond yields as of the measurement date and will therefore vary for different measurement dates. All other assumptions are the same as those used for funding purposes as shown in this report.

Actuaries play a role in helping to determine funding methods and policies that can achieve affordable and appropriate contributions and risk management. The funded status based on the actuarial accrued liability, as well as the actuarially determined contributions, are calculated using the expected return on assets, which reflects the actual investment portfolio. Since the assets are not invested solely in an all-bond portfolio, the LDROM does not indicate the System's funded status or progress, nor does it provide information on necessary plan contributions.

Regarding participant benefit security, if the System were to be funded on an LDROM basis, participant benefits currently accrued as of the measurement date might be considered more secure, since the investment risk would be significantly reduced. However, the fact that assets are invested in a diversified portfolio does not mean that the participants' benefits are not secure. The security of participant benefits relies on a combination of the assets in the plan, the investment returns generated from those assets, and the promise of future contributions from the plan sponsor. Reducing investment risk by investing solely in bonds may significantly increase the actuarially determined contributions, and thereby increase contribution risk by decreasing the ability of the plan sponsor to make necessary contributions to fund the benefits. Unnecessarily high contribution requirements in the near term may not be affordable and could imperil plan sustainability and benefit security. Participant benefits will remain secure if reasonable and appropriate contributions with managed risk are calculated and paid.

Market shocks or regime changes

Invested assets are subject to significant disruptions from market shocks, such as the financial crisis of 2008/2009, or as a result of systemic regime changes that persist for years, such as historically low interest rates over the recent decade. These shocks or changes will increase the risk that investments will underperform the expected return. They may also lead to a need to lower the long-term return on assets assumption.

Long-term return on investment risk

Inherent in the long-term return on investment assumption is the expectation that the current rate will be used until the last benefit payment of the System is made. There is a risk that sustained changes in economic conditions, changes in long-term future capital market assumptions or changes to the System's asset allocations will necessitate an update to the long-term return on investment assumption used.

- Under a lower long-term return on investment assumption, less investment return is available to pay System benefits. This may lead to an increased need for employer contributions.
- The liabilities will be higher at a lower rate of return because future benefits will have a lower discount rate applied when calculating the present value.

Salary Increase Risk

Plan costs will be increased if actual salary increases are larger than expected.

- Higher than expected salary increases will produce higher benefits.
- The higher benefits may be partially offset by increased member contributions, as well as increased employer contributions, due to higher salaries.

Longevity Risk

Retirement System costs will be increased as participants are expected to live longer. This is because:

- Benefits are paid over a longer lifetime when life expectancy is expected to increase. The longer duration of payments leads to higher liabilities.
- Health care has been improving, which increases the life expectancy of participants. As health care improves, Retirement System costs will increase.

Appendix E: Risk Information (continued)

- The mortality assumption for the Retirement System does assume future improvement in mortality. Any improvement in future mortality greater than that reflected in the current mortality assumption would lead to increased Retirement System costs.
- Cost of living adjustments increase longevity risk as higher benefits are paid for a longer period than expected.

System Maturity Measures

There are certain measures that may aid in understanding the significant risks to the System.

Appendix E: Risk Information (continued)

Ratio of Retired Liability to Total Liability (000's omitted)

As of July 1	2023	2022	2021	2020	2019
1. Retiree and Beneficiary Accrued Liability	$ 2,148,638	$2,082,086	$ 2,013,044	$ 1,903,321	$1,841,322
2. Total Accrued Liability	$ 4,287,779	$ 4,119,031	$ 3,921,053	$ 3,635,244	$ 3,468,150
3. Ratio, (1) / (2)	50.1%	50.6%	51.3%	52.4%	53.1%

For a mature plan, this ratio is often above 60% - 65%. An increasing ratio may indicate a need for a less risky asset allocation, which may lead to a lower assumed rate of return on assets and increased costs.

Ratio of Cash Flow to Assets (000's omitted)

During FYE June 30	2023	2022	2021	2020	2019
1. Contributions	$ 172,313	$ 164,727	$ 156,974	$ 154,079	$ 148,881
2. Benefit Payments	206,966	197,857	190,909	184,864	178,969
3. Cash Flow, (1) - (2)	$ (34,654)	$ (33,130)	$ (33,935)	$ (30,785)	$ (30,089)
4. Market Value of Assets	$ 2,954,160	$ 3,419,373	$ 2,984,110	$ 2,628,074	$ 2,280,734
5. Ratio, (3) / (4)	(1.2%)	(1.0%)	(1.1%)	(1.2%)	(1.3%)

When this cash flow ratio is negative, more cash is being paid out than deposited in the fund. Negative cash flow indicates the fund needs to rely on investment returns to cover benefit payments and at the same time may need to invest in more liquid assets to cover benefit payments. More liquid assets may earn lower returns than less liquid assets and thereby increase investment risk. Currently, the low magnitude of the ratio implies there may already be enough liquid assets to cover the benefit payments, less investment return is needed to cover the shortfall, or only a small portion of assets will need to be converted to cash. Therefore, the investment risk is likely not amplified at this time. However, this maturity measure should be monitored in the future.

Contribution Volatility (000's omitted)

As of July 1	2023	2022	2021	2020	2019
1. Market Value of Assets	$ 2,954,160	$ 3,419,373	$ 2,984,110	$ 2,628,074	$ 2,280,734
2. Payroll	$ 1,881,167	$ 1,790,601	$ 1,662,801	$ 1,633,458	$ 1,632,427
3. Asset to Payroll Ratio, (1) / (2)	1.6	1.9	1.8	1.6	1.4
4. Accrued Liability	$ 4,287,779	$ 4,119,031	$ 3,921,053	$ 3,635,244	$ 3,468,150
5. Liability to Payroll Ratio, (4) / (2)	2.3	2.3	2.4	2.2	2.1

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 10 may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio of 5.

Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, if an assumption change increases the liability of two plans by the same percent, the plan with a liability-to-payroll ratio of 10 may experience twice the contribution volatility than a plan with a liability-to-payroll ratio of 5.

Appendix F: Key Terms

Funding

Accrued Service

Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability

The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as “past service liability.”

Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment return and pay increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (pay increases and investment return) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefits” between future normal costs and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Equivalent

One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss)

The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value

The single sum now which is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

Actuary

A person who is trained in the application of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation ASA. and ultimately to Fellowship with the designation FSA.

Appendix F: Key Terms (continued)

Funding (continued)

Amortization

Paying off an interest-bearing liability with periodic payments as opposed to paying it off with a single sum payment. Normal Cost. The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as “current cost.”

Unfunded Actuarial Accrued Liabilities

The difference between actuarial accrued liabilities and valuation assets (actuarial value of assets). Sometimes referred to as “unfunded past service liability” or simply as “unfunded liability.”

Valuation Assets (Actuarial Value of Assets)

The value of plan assets recognized for valuation purposes. This may not be the same value that is used by the plan for financial reporting.

Appendix G: ERFC Regulations

Adopted: March 21, 2006
Amended: May 28, 2009
Amended: May 17, 2012
Amended: June 27, 2013
Amended: May 29, 2014
Amended: October 19, 2017
Amended: June 24, 2022

ERFC Regulations – Funding Policy and Employer Contribution Rate (Applicable to ERFC and ERFC 2001)

Pursuant to their authority under §15.03 of the *ERFC* Plan Document and §10.03 of the *ERFC* 2001 Plan Document, the Trustees have adopted the following regulations governing determination of the Employer contribution rate and implementation of the funding policy pursuant to §§3.05 and 16.03 of the *ERFC* Plan Document and §§3.05 and 11.03 of the *ERFC* 2001 Plan Document.

16.03A Purpose of Regulations.

The funding policy of the Plan is stated in §16.03 of the *ERFC* Plan Document and §11.03 of the *ERFC 2001* Plan Document. That policy is "to establish and receive contributions which will remain approximately level from generation to generation of citizens and which, when combined with other assets and investment return thereon, will be sufficient to pay benefits when due, while providing a reasonable margin for adverse experience." Section 3.05 in each Plan Document provides that the employer "shall contribute a percentage of each Member's Salary, at a rate to be determined by the actuary in accordance with the funding policy set forth in [this Plan Document]." Within the broader context of the stated funding policy, the objectives of the Trustees are:

(1) To make consistent progress toward 100% funding of the Plan and to maintain 100% funding once it has been attained,

(2) to stabilize the Employer contribution rate and avoid sharp increases or decreases due to specific events or short-term conditions; and

(3) to maintain the Plan's funding in accordance with actuarial standards of practice that apply to public sector plans and with applicable federal, state, and local laws and regulations.

16.03B Frequency of Actuarial Valuations.

The actuary shall prepare annual actuarial valuations based upon calendar-year data. Whenever possible, the valuation for a particular year should be presented to the Trustees within the first 120 days of the following calendar year.

16.03C Schedule for Setting the Employer Contribution Rate.

As a general rule, the Trustees will determine the Employer contribution rate biennially, in consultation with the actuary, based upon the actuarial valuation for the most recently completed calendar year, and the rate as so determined will remain in effect for two consecutive Fiscal Years. The rate shall be set and communicated to the Employer at least 9 months in advance of the effective date so that it will be available for use in the Employer's budgetary process. For example, a rate set in accordance with this biennial schedule based on the actuarial valuation as of December 31, 2015 will become effective July 1, 2017 and will remain in effect through June 30, 2019. Notwithstanding the foregoing, the Trustees may determine the Employer contribution rate annually, in consultation with the actuary, based upon the actuarial valuation for the most recently completed calendar year, if the Trustees determine that the Employer contribution rate should be changed because of changes to the Plan or because of adverse market conditions occurring since the last actuarial valuation. In the event that the rate is determined annually based on this exception, the new rate will be communicated to the Employer at least 9 months in advance of the effective date.

Appendix G: ERFC Regulations (continued)

ERFC Regulations – Funding Policy and Employer Contribution Rate (Applicable to ERFC and ERFC 2001) (continued)

16.03D The Employer Contribution Rate.

The Employer contribution rate will be set at a level that is expected to:

(1) pay all normal costs accruing under the Plan during the Fiscal Years for which the rate is effective; and

(2) amortize any unfunded liabilities over a reasonable period.

16.03E The Amortization Period for Unfunded Liabilities

In the biennial determination of the Employer contribution rate, the amortization period for unfunded liabilities will be set within the parameters permitted by actuarial standards of practice that apply to public sector plans and by applicable federal, state, or local laws and regulations, and shall, if permitted, be based upon level percent of pay. If those standards, laws, and regulations and the other principles stated in Paragraphs 16.03A and 16.03D permit, the amortization period for unfunded liabilities shall be set with the objective that the Plan will be 100% funded by June 30, 2040. In conjunction with actuarial valuations dated December 31, 2019 and later, the Trustees may elect to create a new 20-year amortization schedule for changes in liabilities arising during that valuation or subsequent valuations, and to continue the amortization of preexisting unfunded liabilities to their scheduled end date. In order to stabilize contributions, the Trustees may from time to time elect to combine separate amortization schedules into a single schedule over the average remaining amortization period then being used. Changes in liabilities associated with benefit changes or assumption changes occurring on or after December 31, 2021 shall be funded over a 20-year period. However, unfunded liabilities arising in conjunction with early retirement incentive programs offered by the Employer after 2013 shall be separately funded over a period not exceeding five future years and shall not be subject to the combining of amortization schedules mentioned elsewhere in this Paragraph 16.03E.

16.03F The Valuation of Plan Assets

The actuarial value of Plan assets shall be determined as a 5-year smoothed market value of assets. The smoothing technique shall fully recognize the assumed return each year. It shall further spread the difference between the actual return and the assumed return in equal installments over the current year and a period of four future years. In the event that the method would result in an actuarial value of assets that is less than 75% of market value or more than 125% of market value, the actuarial value of assets shall be reset to 75% of market value or 125% of market value, as the case may be, and the total difference between market and actuarial value shall be spread over four future years. Based upon consultation with the actuary, the Trustees may combine bases to reset the actuarial value to be equal to the market value when the difference between market value and actuarial value is 5% or less of market value.

16.03G The Valuation of Plan Liabilities

The actuarial liabilities of the Plan shall be determined using the entry age actuarial cost method, and an investment return assumption chosen by the Trustees in conjunction with the Plan actuary and investment consultant. The investment return assumptions shall be based upon the long term expected return on assets, although the Trustees may take other factors into account when determining this assumption. The Trustees shall also adopt other assumptions necessary for the valuation based upon the advice of the actuary and the judgment of the Trustees. The Trustees shall cause a study of actuarial experience under the Plan to be performed at least once in each five-year period and shall adjust all assumptions accordingly as deemed necessary for prudent operation of the Plan.

Appendix G: ERFC Regulations (continued)

ERFC Regulations – Funding Policy and Employer Contribution Rate (Applicable to ERFC and ERFC 2001) (continued)

16.03H Overfunding

In the event that the Plan's assets exceed the Plan's liabilities, all amortization schedules other than those related to any post-2013 early retirement incentive programs offered by the Employer shall be considered completed, and the Employer contribution rate will be set based upon the normal cost and the completion of any remaining amortizations due to post-2013 early retirement incentive programs offered by the Employer, without regard to such overfunding. In such event, the Trustees shall review the Plan's asset allocation with a view toward de-risking the portfolio and potentially lowering the investment return assumption. Should such de-risking of the portfolio or future unfavorable experiences cause unfunded liabilities to arise again, such liabilities shall be funded over a closed period of 20 future years and shall otherwise be subject to the regulations set forth in Paragraph 16.03E.

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