



**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

Notice of Time Change

**FINANCE/ADMINISTRATION
COMMITTEE**

Tuesday, February 27, 2024

9:00 a.m.

Boardroom

375 11th Street

Oakland, CA 94607

Notice is hereby given that the Tuesday, February 27, 2024 Finance/Administration Committee meeting of the Board of Directors has been rescheduled from 10:00 a.m. to 9:00 a.m. The meeting will be held in the Administration Building Boardroom at 375 11th Street, Oakland, California.

Dated: February 22, 2024



Rischa S. Cole

Secretary of the District

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**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**AGENDA
Finance/Administration Committee
Tuesday, February 27, 2024
9:00 a.m.
Boardroom
375 11th Street
Oakland, CA 94607**

Committee Members Andy Katz {Chair}, April Chan, and William B. Patterson

***** Please see appendix for public participation instructions*****

ROLL CALL:

PUBLIC COMMENT: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DETERMINATION AND DISCUSSION:

1. Monthly Investment Transactions Report (Skoda)
2. Fiscal Year 2024 Semi-Annual Budget Performance Report (Skoda)
3. Employees’ Retirement System Annual Financial Update (Skoda)
4. Employees’ Retirement System Fiscal Year 2023 Actuarial Valuations and Fiscal Year 2025 Employer Contribution Rates (Skoda)
5. Revisions to District Policies (Gardin)
6. Semi-Annual Internal Audit Report (Gardin)
7. Camanche Mobilehome Park Rent (Tognolini)

ADJOURNMENT:

Disability Notice

If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.

Document Availability

Materials related to an item on this Agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD’s Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours, and can be viewed on our website at www.ebmud.com.



Finance/Administration Committee Meeting

*EBMUD Board committee meetings will be conducted in person and accessible via Zoom.
These meetings are live streamed on the District's website.*

Online*

<https://ebmud.zoom.us/j/92433162059?pwd=emM4YjRrQTJtK3M0NnAxTDRoVzh5Zz09>

Webinar ID: 924 3316 2059

Passcode: 282322

By Phone*

Telephone: 1 669 900 6833

Webinar ID: 924 3316 2059

Passcode: 282322

International numbers available: <https://ebmud.zoom.us/u/kdjdx0Kd06>

*To familiarize yourself with Zoom, please visit <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>

Providing public comment - *The EBMUD Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.*

- Each speaker is allotted 3 minutes to speak; the Board President has the discretion to amend this time based on the number of speakers
- The Secretary will track time and inform each speaker when the allotted time has concluded
- Comments on **non-agenda items** will be heard at the beginning of the meeting
- Comments on **agenda items** will be heard when the item is up for consideration
- The Secretary will call each speaker in the order received

In person

- Fill out and submit a blue speaker card which is available in the meeting room

Via Zoom

- Use the raise hand feature in Zoom to indicate you wish to make a public comment
<https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-in-a-webinar>
 - If you participate by phone, press *9 to raise your hand
- When prompted by the Secretary, please state your name, affiliation if applicable, and topic

Submitting written comments or materials

- Email written comments or other materials for the Board of Directors to SecOffice@ebmud.com
- Please indicate the meeting date and agenda item number or non-agenda item in the subject of the email. Contact information is optional.
- **Please email by 4 p.m. the day prior to the scheduled regular meeting;** written comments and other materials submitted to the Board of Directors will be filed in the record.

To view the livestream of Board meetings, please visit:

<https://www.ebmud.com/about-us/board-directors/board-meetings/>

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Monthly Investment Transactions Report

SUMMARY

In accordance with Policy 4.07 – Investments, staff prepares a monthly transactions report for the Finance/Administration Committee to review and for the Board to consider each month. The Committee will review the January 2024 report at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

Pursuant to Policy 4.07, staff prepares a monthly report of investment transactions (buys, sales, deposits, withdrawals) as well as transactions that occur as a feature of the securities held (interest, calls, maturities). Information on portfolio performance, balances, and other factors is presented in the quarterly investment report.

In January 2024, the portfolio increased from \$482.4 million to \$515.4 million. Net transactions increased the total by \$32.1 million. Interest received added approximately \$951,000 to the portfolio. Deposits into short-term liquidity funds totaled \$17.5 million. The District purchased \$40.0 million in securities, and \$28.7 million was withdrawn. No securities were called, sold, or matured. Net transactions at the District’s commercial bank resulted in an increase of \$3.3 million.

NEXT STEPS

This item will be brought to the Board for consideration at its February 27, 2024 meeting.

CCC:SDS:rlh

Attachment: January 2024 Monthly Investment Transactions Report

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Monthly Investment Transactions Report
January 2024

This report is presented to the Board pursuant to Government Code Section 53607 and in accordance with the District's Investment Policy 4.07.

The attached report details transactions in the District's portfolio as follows:

- **Monthly Investment Transactions Summary** **Page 1**
- **Monthly Investment Activity** **Page 2**
 - Buys Page 3
 - Deposits Page 4
 - Matured Page 5
 - Calls Page 6
 - Sales Page 7
 - Withdrawals Page 8
- **Monthly Interest Activity** **Page 9**
 - Interest Received (Transferred to Wells Fargo) Page 10
 - Interest Received (Reinvested) Page 11


Approved by: Sophia B. Skoda, Finance Director

2/13/2024
Date

SDS:KM:ac



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Transactions Summary
January 2024

Portfolio	Beginning Balance*	Monthly Net Transaction Activity	Monthly Interest Activity	Ending Balance
001 - Water System Consolidated	368,782,711.79	20,000,000.00	387,779.14	389,170,490.93
007 - Wastewater Consolidated	76,336,369.54	5,000,000.00	90,417.54	81,426,787.08
049 - Ferc Partnership	2,069,476.95	-	20,789.05	2,090,266.00
009 - BACWA	2,341,201.61	-	23,520.36	2,364,721.97
015 - DERWA	1,034,740.88	-	10,395.94	1,045,136.82
002 - FRWA	1,034,740.88	-	10,395.94	1,045,136.82
014 - IICP	155,728.95	-	1,565.19	157,294.14
010 - UMRWA	66,223.45	-	665.14	66,888.59
003 - Employees Retirement	2,053,597.88	3,810,000.00	105,479.26	5,969,077.14
099 - Wells Fargo**	28,510,060.35	3,266,095.41	300,000.00	32,076,155.76
Total	482,384,852.28	32,076,095.41	951,007.56	515,411,955.25

* Portfolio balance presented at face value.

**Wells Fargo's month-end available balance per bank statement. Gross amount; not allocated by fund and not included in balances above.

A portion of the balance in Wells Fargo is swept to a money market fund to increase investment earnings.

Aaron Cinco

 Prepared by: Aaron Cinco, Accounting Technician

Kevin Ma

 Reviewed by: Kevin Ma, Accounting Supervisor

David Glasser

 Approved by: David Glasser, Controller

2/7/2024

 Date

02/07/2024

 Date

2/8/24/

 Date



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Activity
January 2024

Portfolio	Buys	Deposits	Matured	Calls	Sales	Withdrawals	Non-Investment Transactions*	Net Transaction Activity
001 - Water System Consolidated	32,000,000.00	-	-	-	-	(12,000,000.00)	-	20,000,000.00
007 - Wastewater Consolidated	8,000,000.00	-	-	-	-	(3,000,000.00)	-	5,000,000.00
049 - Ferc Partnership	-	-	-	-	-	-	-	-
009 - BACWA	-	-	-	-	-	-	-	-
015 - DERWA	-	-	-	-	-	-	-	-
002 - FRWA	-	-	-	-	-	-	-	-
014 - IICP	-	-	-	-	-	-	-	-
010 - UMRWA	-	-	-	-	-	-	-	-
003 - Employees Retirement	-	17,500,000.00	-	-	-	(13,690,000.00)	-	3,810,000.00
065 - Water S2008A DSRF	-	-	-	-	-	-	-	-
068 - Water 2010A DSRF	-	-	-	-	-	-	-	-
Investment Activity Total	40,000,000.00	17,500,000.00	-	-	-	(28,690,000.00)	-	28,810,000.00
099 - Wells Fargo	(40,000,000.00)	(17,500,000.00)	-	-	-	28,690,000.00	32,076,095.41	3,266,095.41
Total	-	-	-	-	-	-	32,076,095.41	32,076,095.41

*Non-investment transactions are net receipts and expenditures in Wells Fargo resulting from activities other than investment and interest transactions detailed in this report.

Steven Goodman-Leibof
 Reviewed by: Steven Goodman-Leibof, Principal Mgmt Analyst

2/8/2024
 Date

Robert L. Hannay
 Approved by: Robert L. Hannay, Treasury Manager

2/13/2024
 Date

02/07/2024



EAST BAY MUNICIPAL UTILITY DISTRICT
 Monthly Investment Activity
 January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Buys										
001 - Water System Consolidated	Federal Agency Issues Coupon	T-Note 1 12/15/2024	91282CDN8	1/4/2024	1/5/2024	12/15/2024	16,000,000.00	15,437,280.00	9,180.33	15,446,460.33
001 - Water System Consolidated	Federal Agency Issues Coupon	T-Note 4.625 11/15/2026	91282CJK8	1/4/2024	1/5/2024	11/15/2026	16,000,000.00	16,200,800.00	103,681.32	16,304,481.32
					Total		32,000,000.00			
007 - Wastewater Consolidated	Federal Agency Issues Coupon	T-Note 1 12/15/2024	91282CDN8	1/4/2024	1/5/2024	12/15/2024	4,000,000.00	3,859,320.00	2,295.08	3,861,615.08
007 - Wastewater Consolidated	Federal Agency Issues Coupon	T-Note 4.625 11/15/2026	91282CJK8	1/4/2024	1/5/2024	11/15/2026	4,000,000.00	4,050,200.00	25,920.33	4,076,120.33
					Total		8,000,000.00			

40,000,000.00 39,547,600.00 141,077.06 39,688,677.06



EAST BAY MUNICIPAL UTILITY DISTRICT
 Monthly Investment Activity
 January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Deposits										
003 - Employees Retirement	LAIF	LAIF LGIP	LGIP1005	1/5/2024	1/5/2024	N/A	5,357,000.00	5,357,000.00	0.00	5,357,000.00
003 - Employees Retirement	LAIF	LAIF LGIP	LGIP1005	1/19/2024	1/19/2024	N/A	5,347,000.00	5,347,000.00	0.00	5,347,000.00
003 - Employees Retirement	LAIF	LAIF LGIP	LGIP1005	1/25/2024	1/25/2024	N/A	6,796,000.00	6,796,000.00	0.00	6,796,000.00
					Total		17,500,000.00			
099 - Wells Fargo	Cash	WELLS FARGO Cash	CASH2017	1/31/2024	1/31/2024	N/A	3,566,095.41	3,566,095.41	0.00	3,566,095.41
					Total		3,566,095.41			
							21,066,095.41	21,066,095.41	0.00	21,066,095.41



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Activity
January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Matured										

No Transactions this Period

2024



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Activity
January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
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Calls

No Transactions this Period

0.00 0.00 0.00 0.00



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Activity
January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Sales										

No Transactions this Period

0.00 0.00 0.00 0.00



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Investment Activity
January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Withdrawals										
001 - Water System Consolidated	Local Government Investment	P CAMP LGIP	CAMP6035	1/18/2024	1/18/2024	N/A	3,000,000.00	3,000,000.00	-	3,000,000.00
001 - Water System Consolidated	LAIF	LAIF LGIP	LGIP1001	1/18/2024	1/18/2024	N/A	5,000,000.00	5,000,000.00	-	5,000,000.00
001 - Water System Consolidated	Money Market Mutual Funds	Morgan Stanley MM	MVRXX	1/25/2024	1/25/2024	N/A	4,000,000.00	4,000,000.00	-	4,000,000.00
						Total	12,000,000.00			
003 - Employees Retirement	LAIF	LAIF LGIP	LGIP1005	1/31/2024	1/31/2024	N/A	13,690,000.00	13,690,000.00	-	13,690,000.00
						Total	13,690,000.00			
007 - Wastewater Consolidated	Local Government Investment	P CAMP LGIP	CAMP6035	1/18/2024	1/18/2024	N/A	1,000,000.00	1,000,000.00	-	1,000,000.00
007 - Wastewater Consolidated	LAIF	LAIF LGIP	LGIP1001	1/18/2024	1/18/2024	N/A	1,000,000.00	1,000,000.00	-	1,000,000.00
007 - Wastewater Consolidated	Money Market Mutual Funds	Morgan Stanley MM	MVRXX	1/25/2024	1/25/2024	N/A	1,000,000.00	1,000,000.00	-	1,000,000.00
						Total	3,000,000.00			
							28,690,000.00	28,690,000.00	-	28,690,000.00



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Interest Activity
January 2024

Portfolio	Total Interest Received	Interest Transferred to Wells Fargo*	Net Interest Activity (Reinvested)**
001 - Water System Consolidated	627,779.14	(240,000.00)	387,779.14
007 - Wastewater Consolidated	150,417.54	(60,000.00)	90,417.54
049 - Ferc Partnership	20,789.05	-	20,789.05
009 - BACWA	23,520.36	-	23,520.36
015 - DERWA	10,395.94	-	10,395.94
002 - FRWA	10,395.94	-	10,395.94
014 - IICP	1,565.19	-	1,565.19
010 - UMRWA	665.14	-	665.14
003 - Employees Retirement	105,479.26	-	105,479.26
065 - Water S2008A DSRF	-	-	-
068 - Water 2010A DSRF	-	-	-
Interest Transactions Total	951,007.56	(300,000.00)	651,007.56
099 - Wells Fargo	-	300,000.00	300,000.00
Total	951,007.56	-	951,007.56

*Coupon and other interest received; reinvestment unavailable.

**Coupon and other interest payments reinvested in specific portfolio. 02/07/2024

Aaron Cinco

Prepared by: Aaron Cinco, Accounting Technician

Kevin Ma

Reviewed by: Kevin Ma, Accounting Supervisor

David Glasser

Approved by: David Glasser, Controller

2/7/2024

Date

02/07/2024

Date

2/8/24

Date



EAST BAY MUNICIPAL UTILITY DISTRICT
 Monthly Interest Activity
 January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Interest Received (Transferred to Wells Fargo)										
001 - Water System Consolidated	US Treasuries	T-Note 3 6/30/2024	91282CEX5	12/31/2023	12/31/2023	6/30/2024	-	-	240,000.00	240,000.00
007 - Wastewater Consolidated	US Treasuries	T-Note 3 6/30/2024	91282CEX5	12/31/2023	12/31/2023	6/30/2024	-	-	60,000.00	60,000.00
Total									300,000.00	

0.00 0.00 300,000.00 300,000.00



EAST BAY MUNICIPAL UTILITY DISTRICT
Monthly Interest Activity
January 2024

Portfolio Name	Asset Class	Description	CUSIP/Ticker	Trade Date	Settlement Date	Maturity Date	Face Amount/Shares	Principal	Interest/Dividends	Total
Interest Received (Reinvested)										
001 - Water System Consolidated	Money Market Mutual Funds	Federated MM	GOFXX	1/2/2024	1/2/2024	N/A	-	-	23,221.95	23,221.95
001 - Water System Consolidated	Money Market Mutual Funds	Morgan Stanley	IMVRXX	1/2/2024	1/2/2024	N/A	-	-	24,180.58	24,180.58
001 - Water System Consolidated	Money Market Mutual Funds	State Street MM	GVMXX	1/2/2024	1/2/2024	N/A	-	-	23,063.38	23,063.38
001 - Water System Consolidated	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	174,735.59	174,735.59
001 - Water System Consolidated	Local Government Investment Pool	CAMP LGIP	CAMP6035	1/31/2024	1/31/2024	N/A	-	-	142,577.64	142,577.64
							Total			387,779.14
002 - FRWA	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	10,395.94	10,395.94
							Total			10,395.94
003 - Employees Retirement	LAIF	LAIF LGIP	LGIP1005	1/5/2024	1/5/2024	N/A	-	-	105,479.26	105,479.26
							Total			105,479.26
007 - Wastewater Consolidated	Money Market Mutual Funds	Federated MM	GOFXX	1/2/2024	1/2/2024	N/A	-	-	4,876.35	4,876.35
007 - Wastewater Consolidated	Money Market Mutual Funds	Morgan Stanley	IMVRXX	1/2/2024	1/2/2024	N/A	-	-	4,534.13	4,534.13
007 - Wastewater Consolidated	Money Market Mutual Funds	State Street MM	GVMXX	1/2/2024	1/2/2024	N/A	-	-	4,990.35	4,990.35
007 - Wastewater Consolidated	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	40,969.58	40,969.58
007 - Wastewater Consolidated	Local Government Investment Pool	CAMP LGIP	CAMP6035	1/31/2024	1/31/2024	N/A	-	-	35,047.13	35,047.13
							Total			90,417.54
009 - BACWA	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	23,520.36	23,520.36
							Total			23,520.36
010 - UMRWA	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	665.14	665.14
							Total			665.14
014 - IICP	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	1,565.19	1,565.19
							Total			1,565.19
015 - DERWA	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	10,395.94	10,395.94
							Total			10,395.94
049 - Ferc Partnership	LAIF	LAIF LGIP	LGIP1001	1/12/2024	1/12/2024	N/A	-	-	20,789.05	20,789.05
							Total			20,789.05
							0.00	0.00	651,007.56	651,007.56

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Fiscal Year 2024 Semi-Annual Budget Performance Report

SUMMARY

The attached Semi-Annual Budget Performance Report for the period ending December 31, 2023 includes information on total revenues and expenses compared to the six-month budget, a summary of major capital cash flow expenses, and year-end projections. This item will be presented at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

Six-Month Budget Performance

Total Water System revenues for the period July 1, 2023 to December 31, 2023 were \$443.3 million (75 percent of the six-month budget) and total expenses were \$475.1 million (95 percent of the six-month budget). Revenues were below the six-month budget primarily due to bonds that were budgeted but not issued in the first half of the fiscal year. This also reduced debt service expenses; combined with operating expenses that were also below budget, these two produced savings that offset higher-than-expected capital expenses. As a result, total expenses remained 5 percent below the budget for the first six months.

Total Wastewater System revenues for the same period were \$84.9 million (90 percent of the six-month budget), and total expenses were \$88.3 million (109 percent of the six-month budget). Similar to the Water System, revenues were below the six-month budget due to bonds that were budgeted but not issued in the first half of the fiscal year. Though operating and debt service expenses were below budget in the first half of the fiscal year, capital spending on projects deferred from Fiscal Year (FY) 2023 into FY 2024 outpaced the savings.

Year-End Projections

Based on year-end projections, Water System total revenues are projected to be two percent below budget, and total expenses are anticipated to be under budget by one percent. Total revenue is expected to be \$40 million less than total budgetary expenses. System capacity

charges and capital reimbursements revenues are anticipated to be \$36.6 million below budget, combined, due to less applicant work for large-scale projects this fiscal year as compared to prior years. Water charges are projected to be \$5.8 million less than budget, however this will be offset by increased revenue from power sales. Operating expenses are projected to be less than budget partly due to less-than-planned spending and increased capital support offsets, which relieve the operating budget of expenses associated with managing and supporting the capital program. Debt service expenses are expected to be below budget due to less interest expenses in the first half of the fiscal year, though bonds were issued in February and proceeds will be received in March. This combined savings is expected to offset increased capital expenses that are projected to exceed planned cash flow.

For the Wastewater System, total revenues are projected to be one percent above budget and total expenses are anticipated to be one percent under budget. Total revenues are expected to be \$5 million more than total expenses by year-end. The primary drivers for increased total revenue are greater-than-budgeted revenues from resource recovery partially offset by lower interest income and capacity charges. Similar to the Water System, total expenses are expected to be below budgeted expectations, due in part to lower chemical expenses and unspent contingency that will be partly offset by increased energy costs. The Wastewater System also issued bonds in February and the proceeds will be received in March, and debt service expenses are expected to be below budget from less interest expenses in the first half of the fiscal year and no principal payment that was budgeted this year. This combined savings is expected to offset increased capital expenses that are projected to exceed planned cash flow.

CCC:SDS:SAF

Attachment: Semi-Annual Budget & Performance for Fiscal Year 2024

Executive Summary

This is the Fiscal Year 2024 (FY 2024) semi-annual budget and performance report for the Water and Wastewater systems. This report details the Water and Wastewater systems budget performance through December 31, 2023, the first six months of FY 2024.

Water System Overview

- **Operating Revenues:** Total operating revenues were \$440.0 million, or \$2.8 million greater than the six-month budget.
- **New Bond Proceeds:** New bonds issued were \$0.0 million, or \$134.8 million less than the six-month budget.
- **Capital & Grant Revenues:** Capital & grant revenues were \$3.3 million, or \$14.4 million less than the six-month budget.
- **Operating Expenses:** Total operating expenses were \$171.5 million, or \$29.6 million less than the six-month budget.
- **Debt Service:** Debt expenses were \$63.4 million, or \$8.1 million less than the six-month budget.
- **Capital Cash Flow Expenses:** Total capital cash flow spending was \$240.1 million, or \$10.9 million more than the six-month budget.
- **Grant Expenses:** Total grant expenses were \$11,300, or \$276,700 less than the six-month budget.

Wastewater System Overview

- **Operating Revenues:** Total operating revenues were \$84.5 million, or \$2.2 million greater than the six-month budget.
- **New Bond Proceeds:** New bonds issued were \$0.0 million, or \$12.5 million less than the six-month budget.
- **Other Capital Revenues:** Other capital revenues were \$0.4 million, or \$0.4 million greater than the six-month budget.
- **Operating Expenses:** Total operating expenses were \$45.9 million, or \$2.3 million less than the six-month budget.
- **Debt Service:** Debt expenses were \$8.5 million, or \$0.6 million less than the six-month budget.
- **Capital Cash Flow Expenses:** Total capital cash flow spending was \$33.9 million, or \$10.5 million more than the six-month budget.

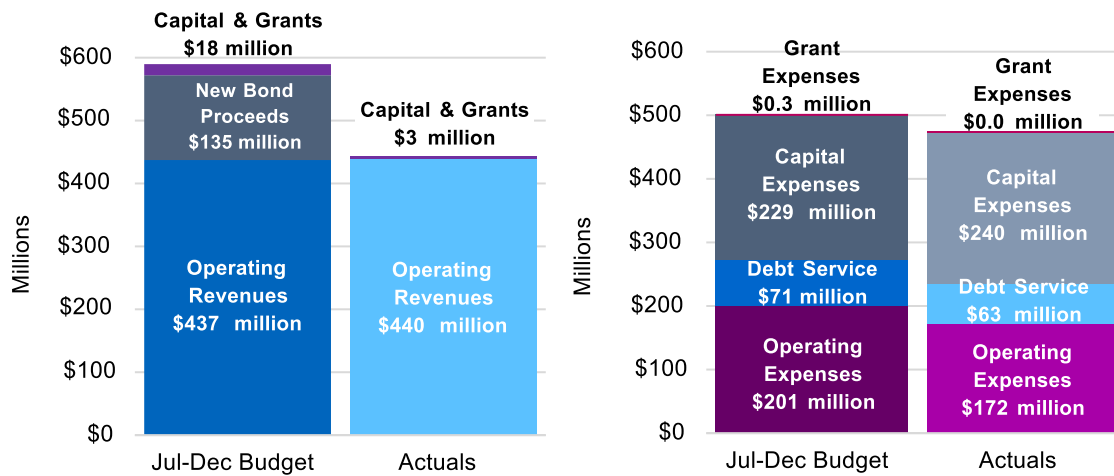
Water System

Summary of Revenues and Expenses

The following charts compare the first six months' actuals to a six-month budget for revenues, operating expenses, and capital cash flow expenses.

- Operating revenues totaled \$440.0 million, or 101 percent of the six-month budget.
- New bond proceeds totaled \$0.0 million, or 0 percent of the six-month budget.
- Capital and grant revenues totaled \$3.3 million, or 19 percent of the six-month budget.
- Operating expenses totaled \$171.5 million, or 85 percent of the six-month budget.
- Debt service expenses totaled \$63.4 million, or 89 percent of the six-month budget.
- Capital cash flow expenses totaled \$240.1 million, or 105 percent of the six-month budget.
- Grant expenses totaled \$11,300 thousand, or 4 percent of the six-month budget.

Water System All Revenues and Expenses Summary



Water System All Revenues and Expenses Summary

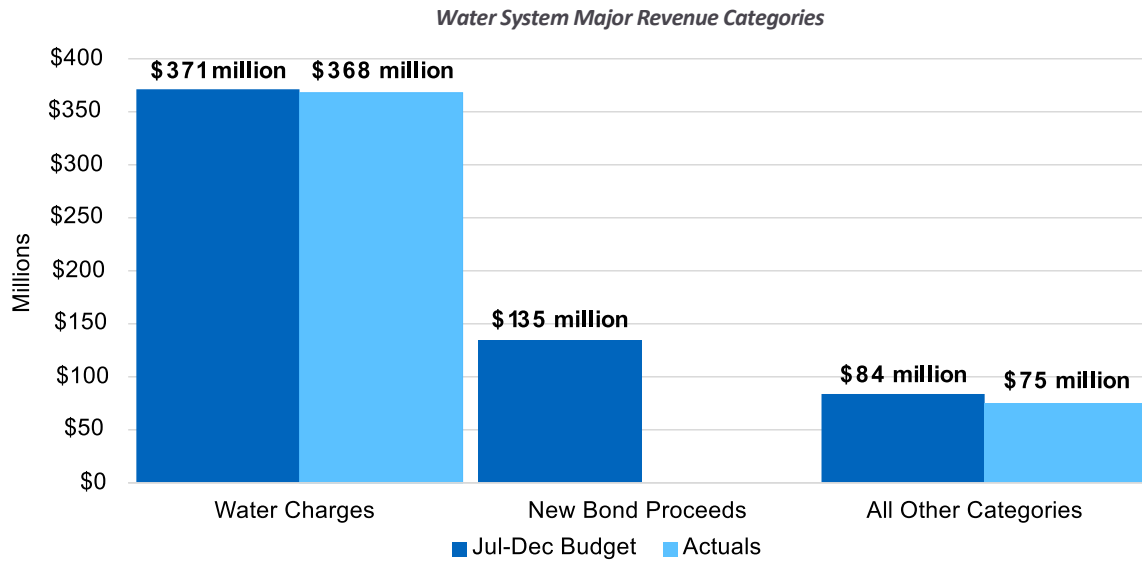
All Revenues and Expenses Summary (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Operating Revenues	437,281	440,040	2,759	101%
New Bond Proceeds	134,750	-	(134,750)	0%
Capital & Grants	17,700	3,294	(14,406)	19%
Total Revenues	589,731	443,334	(146,397)	75%
Operating Expenses	201,182	171,540	(29,642)	85%
Debt Service	71,486	63,364	(8,122)	89%
Capital Expenses	229,232	240,146	10,914	105%
Grant Expenses	288	11	(277)	4%
Total Expenses	502,188	475,062	(27,126)	95%
Revenues less Expenses	87,543	(31,728)	(119,270)	

FY 2024 Semi-Annual Budget & Performance Report

Water System – Water System Revenues

Water System Revenues

The following chart shows the major categories of revenue compared to a six-month budget, and the table below the chart shows additional detail. The combined revenues for the first six months were \$443.3 million, which represents 75 percent of the \$589.7 million six-month budget. Details of major revenue variances are explained on the following page.



Water System Detailed Revenue Summary

Detailed Revenue Summary (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Water Charges	371,210	367,961	(3,249)	99%
Property Taxes	20,121	23,521	3,400	117%
Power Sales	4,000	9,201	5,201	230%
Interest Income	6,950	7,215	265	104%
SCC Revenue	17,500	13,133	(4,367)	75%
Reimbursements	7,000	6,436	(564)	92%
All Other Revenue	10,500	12,572	2,072	120%
Operating Revenues	437,281	440,040	2,759	101%
New Bond Proceeds	134,750	-	(134,750)	0%
Grants	-	199	199	-
Capital Reimbursements	17,700	3,689	(14,011)	21%
Other Capital Revenue	-	(595)	(595)	-
Capital Revenues	152,450	3,294	(149,156)	2%
Total Revenues	589,731	443,334	(146,397)	75%

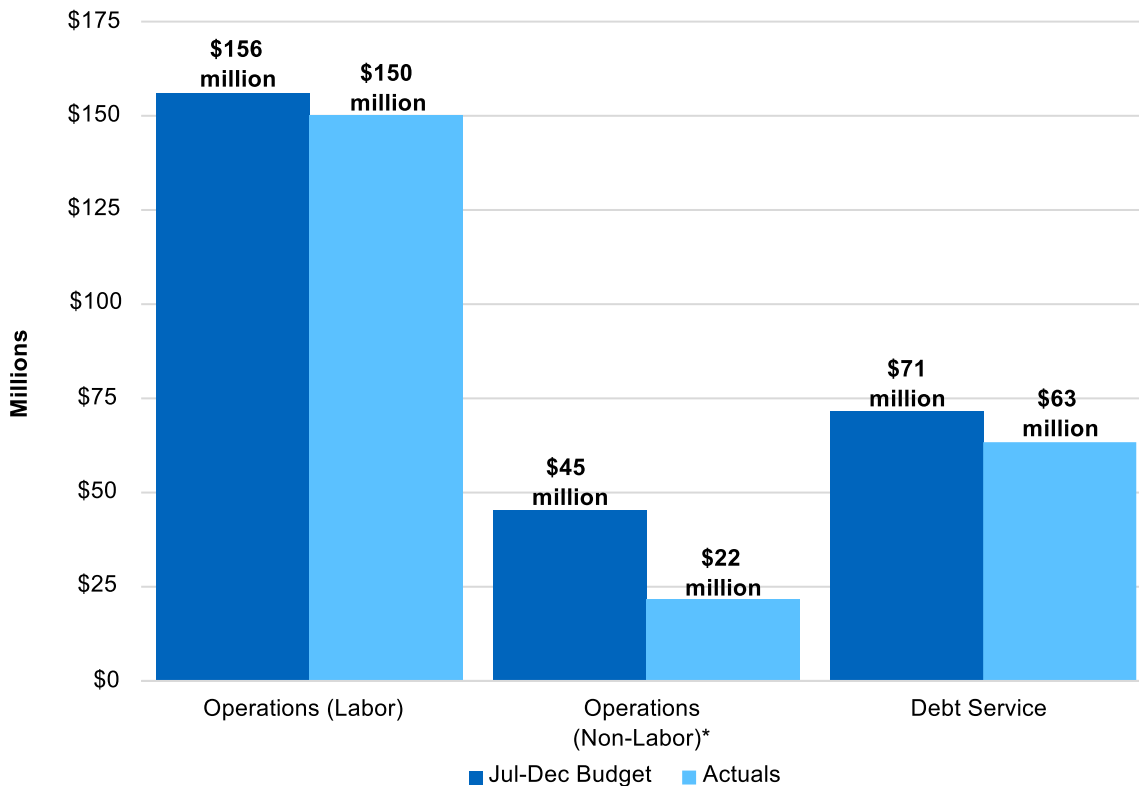
Major revenue variances were:

- **Water Charges** were \$368.0 million, or 99 percent of the six-month budget, which is based on prior years' trend data. Water consumption through December was 155.1 million gallons per day (MGD) as compared to water consumption of 151.1 MGD for the same period in FY 2023, for a year-over-year increase of 2.6 percent. Water Charges were 1 percent below budget due to lower-than-projected consumption. Customers continue to maintain some of their conservation habits developed during the drought and usage is slightly lagging the consumption trend budgeted for the year.
- **System Capacity Charges (SCC)** revenue was \$13.1 million, which is 75 percent of the six-month budget. The budget for SCC revenue was in part based on strong building activity continuing from FY 2023. However, this year there have been fewer applications than in prior years for large-scale developments that typically yield strong SCC revenue, though small-scale development, including Accessory Dwelling Units, continue to support some SCC revenue.
- **Power Sales** were \$9.2 million, which is 230 percent of the six-month budget. This significant performance above budget was driven by higher-than-expected per-unit energy prices, favorable wholesale markets, and strong water supply conditions in the first half of the year.
- **Capital Reimbursements** were \$3.7 million, which is 21 percent of the six-month budget. Similar to SCC revenue, the budget was partly based on past applicant activity for large-scale projects, however this year most capital reimbursements have been from small-scale projects and require less work and therefore lower reimbursements.
- **New Bond Proceeds** were \$0.0 million compared to the \$134.8 million six-month budget, which projects that half of the total budgeted bond proceeds will be issued in the first half of the year for planning purposes. However, bonds were not yet issued in the first half of FY 2024 and proceeds for the full year are expected in March 2024.
- **Grant Revenues** were \$0.2 million from the Department of Water Resources for the Sustainable Groundwater Planning Grant and the California Natural Resources Agency for the Prop 68 - Protecting California's Rivers, Streams, and Watershed Program.

Water System Operating Expenses

The following chart depicts non-capital expenses in comparison to six-month budgets. Total non-capital expenses totaled \$234.9 million, which is 86 percent of the \$272.7 million six-month budget. Major variances in the three categories are described in further detail below.

Water System Operating Expense Categories



*Includes capital support offsets.

Water System Operating (Non-Capital) Expense Details

Operating (Non-Capital) Expense Details (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Operations (Labor)	155,912	150,032	(5,881)	96%
Operations (Non-Labor)*	45,269	21,508	(23,761)	48%
Total Operations Expenses	201,182	171,540	(29,642)	85%
Debt Service	71,486	63,364	(8,122)	89%
Total Non-Capital Expenses	272,668	234,904	(37,763)	86%

*Includes capital support offsets.

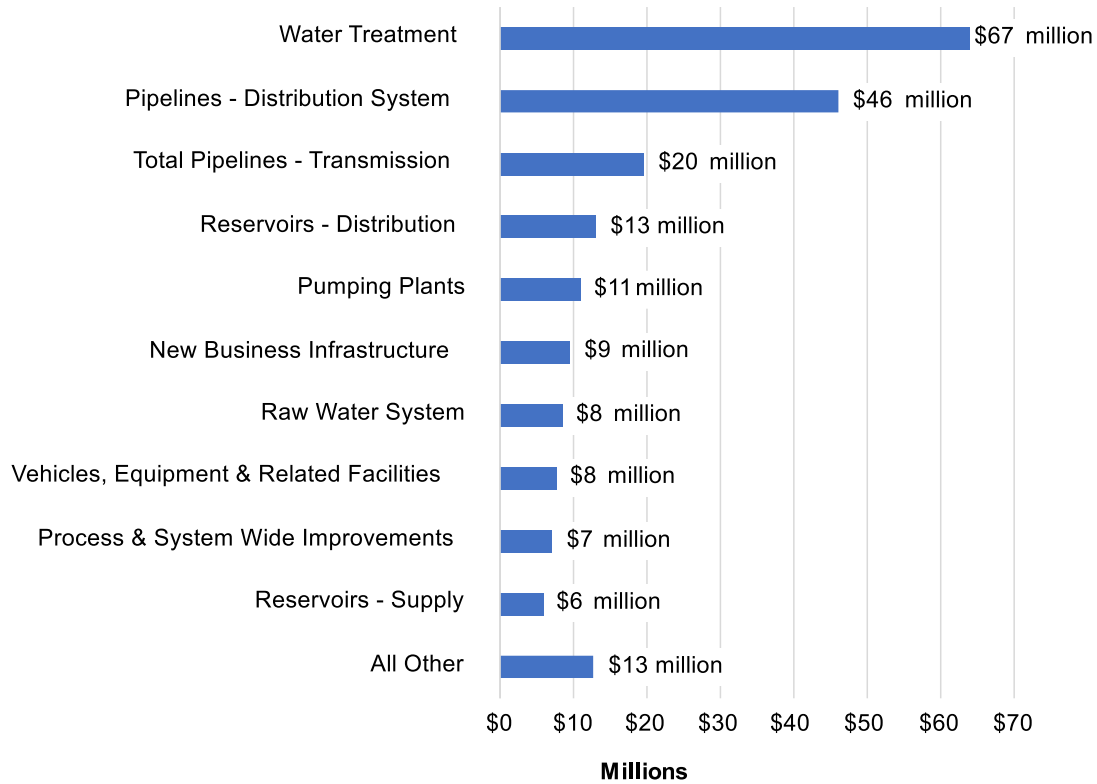
The major variances in spending are attributable to:

- **Operations (Labor):** Operating labor expenses were \$150.0 million, or 4 percent less than the six-month budget. This is primarily due the lead time to recruit for vacant positions and a 1 percent shift of operating labor to capital expenses due to ongoing significant capital work as compared to budgeted expectations for that allocation.
- **Operations (Non-Labor):** Expenditures in most departments' non-labor budgets remained well under budget. This, combined with increased capital support expenses, which relieve the operating budget of expenses associated with managing and supporting the capital program, and unspent contingency resulted in \$23.8 million in savings compared to budget.
- **Debt Service:** Actuals were 89 percent of the six-month budget, which included interest expense budgeted for new money bonds. The issuance of the new bonds is currently scheduled for this spring, with the first interest payment on June 1, 2024, leading to savings in the first half of the fiscal year as compared to budget.

Water System Capital Cash Flow Expenses

The following chart illustrates the capital cash flow spending for major capital awards in the Water System. Capital cash flow expenditures totaled \$240.1 million. Of this amount, direct capital project costs totaled \$207.5 million and the remaining \$32.7 million represents capital support expenses.

Water System Cash Flow Expenses by Award Purpose



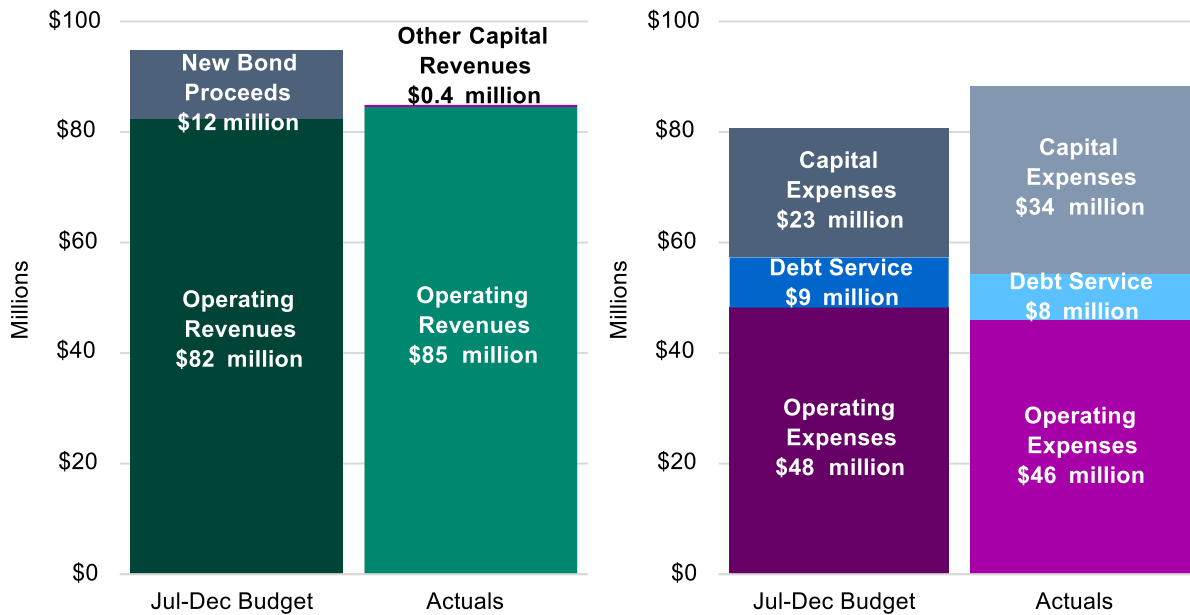
Wastewater System

Summary of Revenues and Expenses

The following charts compare the six-month actuals to a six-month budget for total revenues, operating expenses, and capital cash flow expenses.

- Operating revenues totaled \$84.5 million, or 103 percent of the six-month budget.
- New bond proceeds totaled \$0.0 million, or 0 percent of the six-month budget.
- Other capital revenues totaled \$0.4 million, which was unbudgeted.
- Operating expenses totaled \$45.9 million, or 95 percent of the six-month budget.
- Debt service totaled \$8.5 million, or 93 percent of the six-month budget.
- Capital cash flow expenses totaled \$33.9 million, or 145 percent of the six-month budget.

Wastewater System Revenues and Expenses Summary

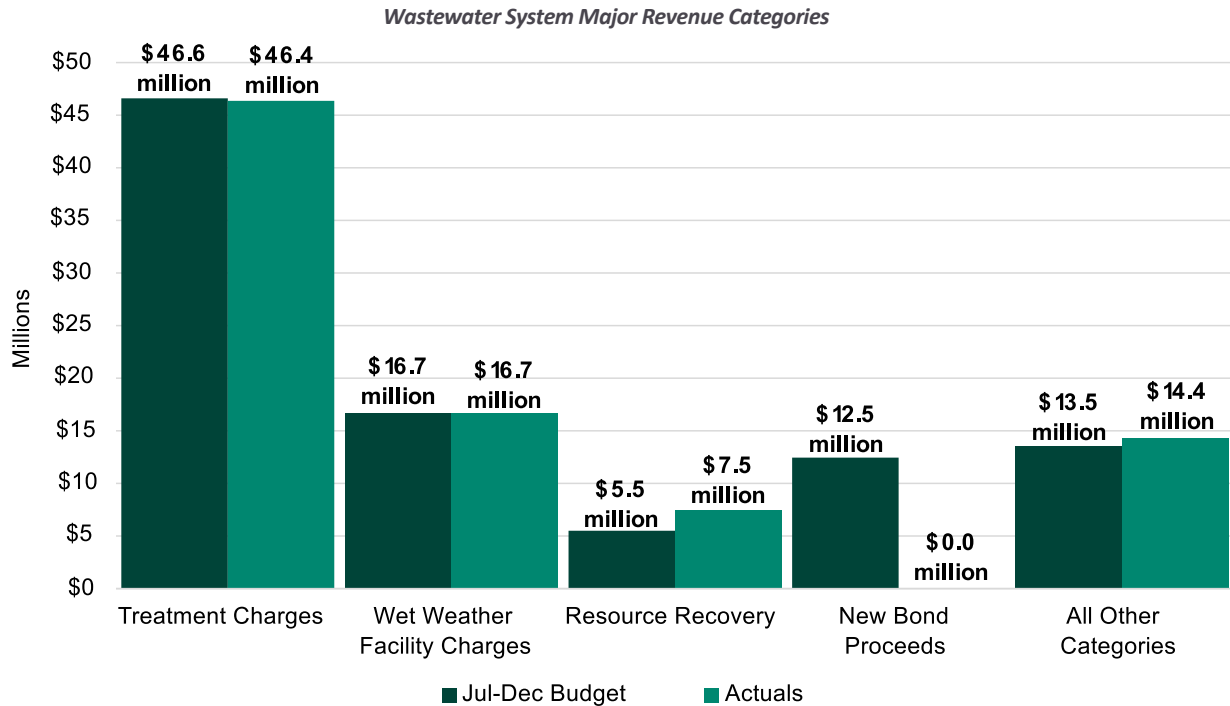


Wastewater System All Revenues and Expenses Summary

All Revenues and Expenses Summary (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Operating Revenues	82,315	84,523	2,208	103%
New Bond Proceeds	12,450	-	(12,450)	0%
Other Capital Revenues	-	381	381	-
Total Revenues	94,765	84,904	(9,861)	90%
Operating Expenses	48,230	45,945	(2,285)	95%
Debt Service	9,083	8,453	(630)	93%
Capital Expenses	23,332	33,853	10,521	145%
Total Expenses	80,645	88,251	7,606	109%
Revenues less Expenses	14,119	(3,347)	(17,467)	

Wastewater System Revenues

The following chart shows the major sources of revenue compared to a six-month budget, and the table below shows a more detailed breakdown of system revenues. The combined revenues for the six-months were \$84.9 million, which is 90 percent of the \$94.8 million six-month budget. Details of the major revenue variances are discussed below.



Wastewater System Detailed Revenue Summary

Detailed Revenue Summary (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Treatment Charges	46,600	46,362	(238)	99%
Wet Weather Facility Charges	16,700	16,691	(9)	100%
Resource Recovery	5,500	7,501	2,001	136%
Property Taxes	2,915	3,750	835	129%
Interest Income	1,550	1,056	(494)	68%
Laboratory Services	2,450	2,623	173	107%
Reimbursements	900	997	97	111%
Permit Fees	850	822	(28)	97%
Capacity Charges	1,750	1,506	(244)	86%
All Other Revenue	3,100	3,215	115	104%
Operating Revenues	82,315	84,523	2,208	103%
New Bond Proceeds	12,450	-	(12,450)	0%
Other Capital Revenues	-	381	381	-
Capital Revenues	12,450	381	(12,069)	3%
Total Revenues	94,765	84,904	(9,861)	90%

Major revenue variances were:

- **Resource Recovery** revenue totaled \$7.5 million, which is 136 percent of the six-month budget due to a conservative approach to budgeting because this source is driven by, and subject to the volatility of, market demand.
- **Capacity Charges (Wastewater Capacity Fee, WCF)** revenue was \$1.5 million, which is 86 percent of the six-month budget. The budget for WCF revenue was in part based on strong building activity continuing from FY 2023. Similar to the Water System, capacity charges under performed due to fewer and smaller projects so far this fiscal year.
- **Interest Income** was \$1.1 million which is 68 percent of the six-month budget due to a lower amount of funds available for reinvestment than assumed in the budget. An unexpected large settlement expense last fiscal year, as well as rapid capital spending in the first half of FY 2024, drove lower interest income performance despite the strong interest rate environment.
- **New Bond Proceeds** were \$0.0 million compared to the \$12.5 million six-month budget, which projects that half of the total budgeted bond proceeds will be issued in the first half of the year for planning purposes. However, bonds were not yet issued in the first half of FY 2024 and proceeds for the full year are expected in March 2024.

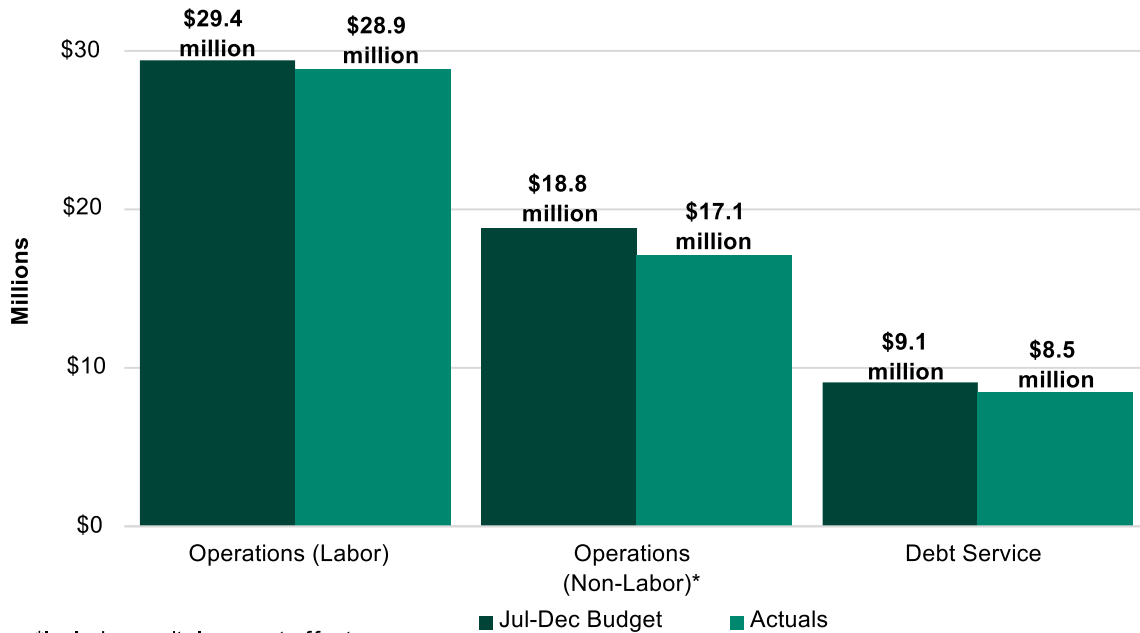
FY 2024 Semi-Annual Budget & Performance Report

Wastewater System – Wastewater System Operating Expenses

Wastewater System Operating Expenses

The following chart and table depict non-capital expenses compared to the six-month budgets. Operating and debt service expenses totaled \$54.4 million, which is 95 percent of the \$57.3 million amended six-month budget.

Wastewater System Operating Expense Categories



*Includes capital support offsets.

Wastewater System Operating (Non-Capital) Expense Details

Operating (Non-Capital) Expense Details (\$ Thousands)				
	Jul-Dec Budget	Actuals	Over / (Under)	%
Operations (Labor)	29,407	28,863	(544)	98%
Operations (Non-Labor)*	18,823	17,082	(1,741)	91%
Total Operations Expenses	48,230	45,945	(2,285)	95%
Debt Service	9,083	8,453	(630)	93%
Total Non-Capital Expenses	57,313	54,398	(2,914)	95%

*Includes capital support offsets.

The major variances in spending are attributable to:

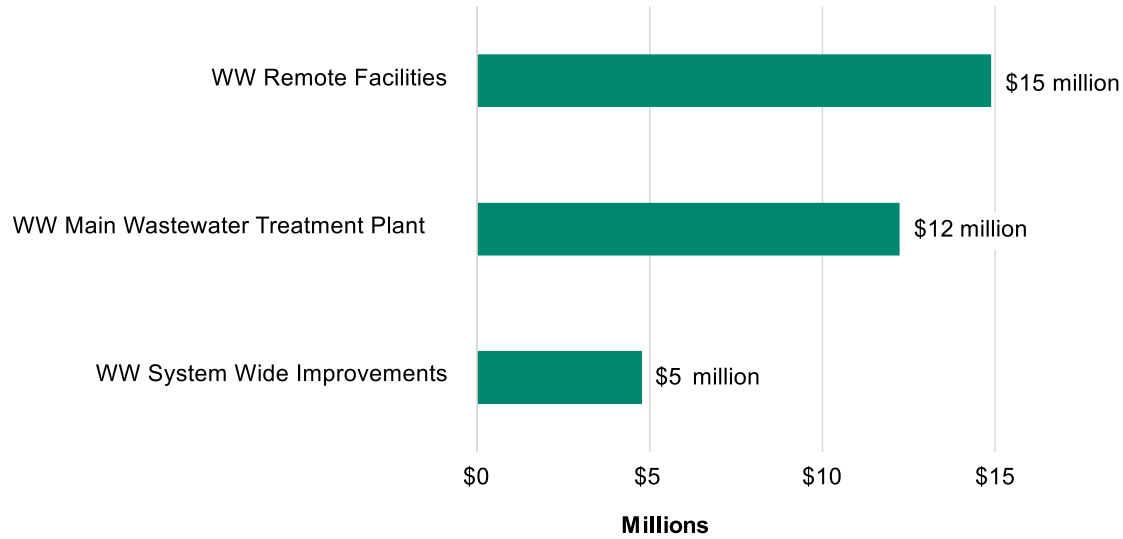
- **Operations (Labor):** Labor expenses were \$28.9 million, or 2 percent, less than budget due to the lead time to recruit for vacant positions.
- **Operations (Non-Labor):** While expenditures overall were under budget by 9 percent, expenses were higher than budget for fees and licenses due to earlier than planned payments for permits, which was offset by unspent contingency funds.
- **Debt Service:** Expenses were 93 percent of the amended six-month budget, which included interest expense budget for new money bonds. The issuance of the new bonds is currently scheduled for this spring, with the first interest payment on June 1, 2024, leading to savings in the first half of the fiscal year.

Wastewater System Capital Cash Flow Expenses

The following chart illustrates the capital cash flow spending for the capital awards for the Wastewater System. Capital cash flow expenditures totaled \$33.9 million. Of this amount, direct capital project costs totaled \$31.9 million, and the remaining \$2.0 million represents capital support expenses.

Of the three Wastewater capital award purposes, spending in the Remote Facilities Award Purpose totaled \$14.9 million, representing approximately 47 percent of the Wastewater System’s overall capital spending, before Capital Support.

Wastewater System Cash Flow Expenses by Award Purpose



Year-End Projection

Water System

Based on year-end projections, total revenues are projected to be 2 percent below budget, and total expenses are expected to be 1 percent below budget. This is expected to lead to total budgetary expenses exceeding total revenues by \$40.2 million. Capital expenses not covered by revenue are covered by future bond proceeds or reserves. Details of the variances compared to budget are discussed below.

Water System All Revenues and Expenses Year-End Projection

All Revenues and Expenses Year-End Projection (\$ Thousands)				
	Amended Budget	Year-End Projection	Over / (Under)	%
Water Charges	668,306	662,500	(5,806)	99%
Property Taxes	47,000	48,500	1,500	103%
Power Sales	8,000	14,200	6,200	178%
Interest Income	13,900	14,400	500	104%
SCC Revenue	35,000	26,200	(8,800)	75%
Reimbursements	14,000	13,000	(1,000)	93%
All Other Revenue	21,000	24,800	3,800	118%
Drought Revenues	-	-	-	-
Operating Revenues	807,206	803,600	(3,606)	100%
New Bond Proceeds	269,500	275,000	5,500	102%
Grants	-	200	200	-
Capital Reimbursements	35,400	7,600	(27,800)	21%
Other Capital Revenue	-	(1,200)	(1,200)	-
Capital Revenues	304,900	281,600	(23,300)	92%
Total Revenues	1,112,106	1,085,200	(26,906)	98%
Operating Expenses	414,845	393,894	(20,951)	95%
Debt Service	238,673	230,552	(8,122)	97%
Capital Expenses	478,131	500,343	22,212	105%
Grant Expenses	576	576	-	100%
Total Expenses	1,132,226	1,125,364	(6,861)	99%
Revenues less Expenses	(20,119)	(40,164)	(20,045)	

REVENUES

- Water charges are expected to provide 82 percent of operating revenues and are projected to be \$5.8 million less than budget, or 1 percent below budget by fiscal year end.
- All other operating revenue items combined are expected to provide an additional \$2.2 million more in revenue than budgeted as most revenue items, particularly power sales, are expected to exceed budget. This is offset in part by system capacity charges (SCC Revenue) that are expected to be below budget due to slower development trends.
- Capital revenues are anticipated to be \$23.3 million less than budget, or 92 percent of the full-year budget, primarily due to receiving less than budgeted capital reimbursements.

EXPENSES

- Operating expenses are projected to be \$21.0 million, or 5 percent, less than budget. This expected savings is primarily driven by increased capital support offsets, unspent contingency, and overall underspending in department non-labor budgets.
- Debt service expenses are anticipated to be \$8.1 million less than budget, or 97 percent of the full-year budget, in part due to reduced interest expenses. The budget planned for a new bond issuance at the start of the fiscal year with semi-annual interest payments. The bond closing is expected in March, resulting in interest expense savings from the first half of the fiscal year. These remaining funds may be used to retire variable rate commercial paper, depending on fiscal conditions at year end.
- Capital expenses are expected to be \$22.2 million above budget, or 105 percent of the full-year budget. Capital spending is expected to continue progressing at a faster pace than budgeted, similar to the prior year, due in part to significant investments in the Water Treatment Award Purpose.

Year-End Projection

Wastewater System

Based on year-end projections, total revenues are projected to be 1 percent above budget and total expenses are anticipated to be 1 percent under budget, which is expected to result in \$4.9 million more in total revenues than total expenses by year-end. The following table shows the year-end projection for the Wastewater System. Details of the variances are discussed below.

Wastewater System All Revenues and Expenses Year-End Projection

All Revenues and Expenses Year-End Projection (\$ Thousands)				
	Amended Budget	Year-End Projection	Over / (Under)	%
Treatment Charges	93,200	92,500	(700)	99%
Wet Weather Facility Charges	33,400	33,400	-	100%
Resource Recovery	11,000	13,000	2,000	118%
Property Taxes	7,500	7,800	300	104%
Interest Income	3,100	2,100	(1,000)	68%
Laboratory Services	4,900	5,200	300	106%
Reimbursements	1,800	1,800	-	100%
Permit Fees	1,700	1,700	-	100%
Capacity Charges	3,500	2,800	(700)	80%
All Other Revenue	6,200	6,500	300	105%
Operating Revenues	166,300	166,800	500	100%
New Bond Proceeds	24,900	25,000	100	100%
Other Capital Revenues	-	800	800	-
Capital Revenues	24,900	25,800	900	104%
Total Revenues	191,200	192,600	1,400	101%
Operating Expenses	106,548	100,652	(5,897)	94%
Debt Service	32,871	31,862	(1,009)	97%
Capital Expenses	50,030	55,131	5,100	110%
Total Expenses	189,450	187,644	(1,805)	99%
Revenues less Expenses	1,750	4,956	3,205	

REVENUES

- Revenues are projected to be 1 percent above budget primarily due to increased revenue from resource recovery and other capital revenues partially offset by lower than anticipated interest income and capacity charges. Most other revenue sources are expected to essentially match budgeted expectations.

EXPENSES

- Operating expenses are anticipated to be 6 percent below budget largely driven by lower-than-anticipated chemical costs and unspent contingency, however this will be offset in part by increases in energy costs. Labor costs are expected to meet budgeted expectations.
- Debt service expenses for the full fiscal year are anticipated to be 3 percent less than budget. The budget planned for a new bond issuance at the start of the fiscal year with semi-annual interest and annual principal payments. New money bonds are expected to be issued later this spring, resulting in less interest expenses in

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Year-End Projection – Wastewater System

addition to no principal payment this fiscal year. This is the first full year the Wastewater System has no variable rate debt, which significantly enhances the predictability of these expenses and lowers interest rate and event risks.

- Capital expenses are projected to be \$5.1 million above budget, or 110 percent of the full-year budget. Some of this is due to special structures, pump station, and power generation station projects that were deferred from last fiscal year and completed construction this fiscal year. This performance is closely in line with the prior year's spending compared to expected capital cashflows.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Employees' Retirement System Annual Financial Update

SUMMARY

The pension and retiree healthcare benefits for District employees and retirees are administered by the East Bay Municipal Utility District Employees' Retirement System (Retirement System). Each year staff provides a financial update on the Retirement System to the Finance/Administration Committee. Staff will also present the Fiscal Year (FY) 2023 actuarial valuations and proposed FY 2025 contribution rates. This memo provides the annual update for the fiscal year ending June 2023 (FY 2023). These items will be discussed at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

Portfolio Investment Returns

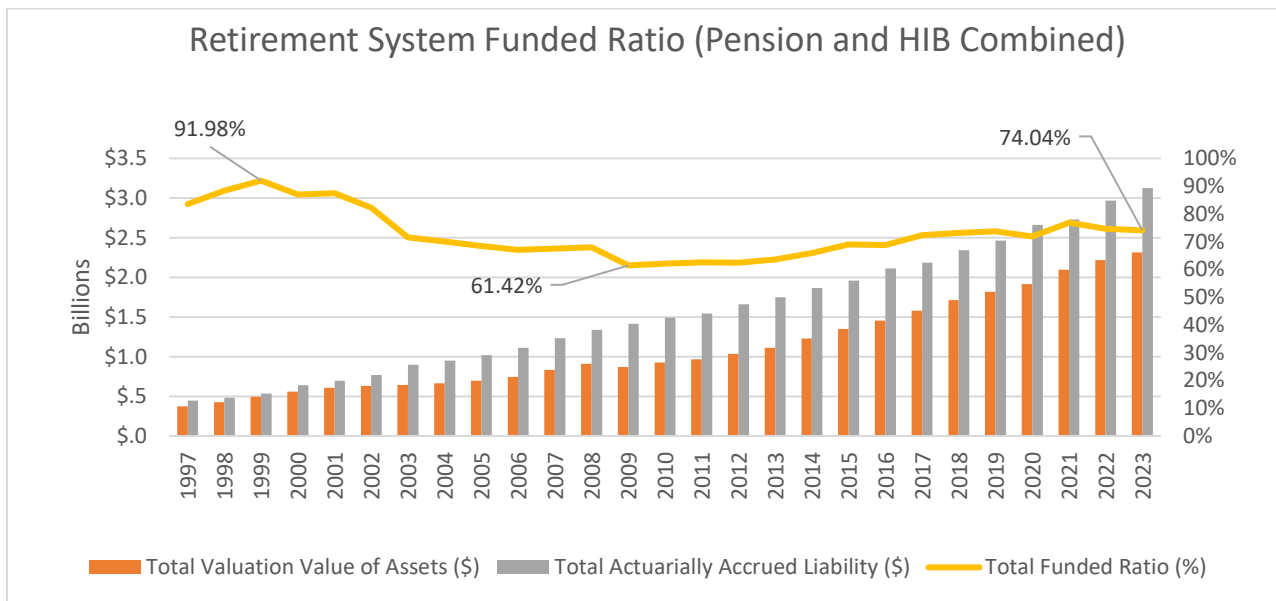
Over the past three fiscal years, the market has alternated between strong returns and losses. Following returns of 26.6 percent for FY 2021 and negative 11.9 percent in FY 2022, FY 2023 had relatively strong investment performance with a 10.6 percent return. The strong returns in FY 2023 were driven primarily by a rally in the equities market, both domestic and international, which more than made up for a tough fixed income market that experienced negative returns. Given the domestic and worldwide geopolitical environment, the markets may continue to be volatile in the near term which can positively or negatively affect the Retirement System's returns and funded ratio.

Retirement System Funded Status

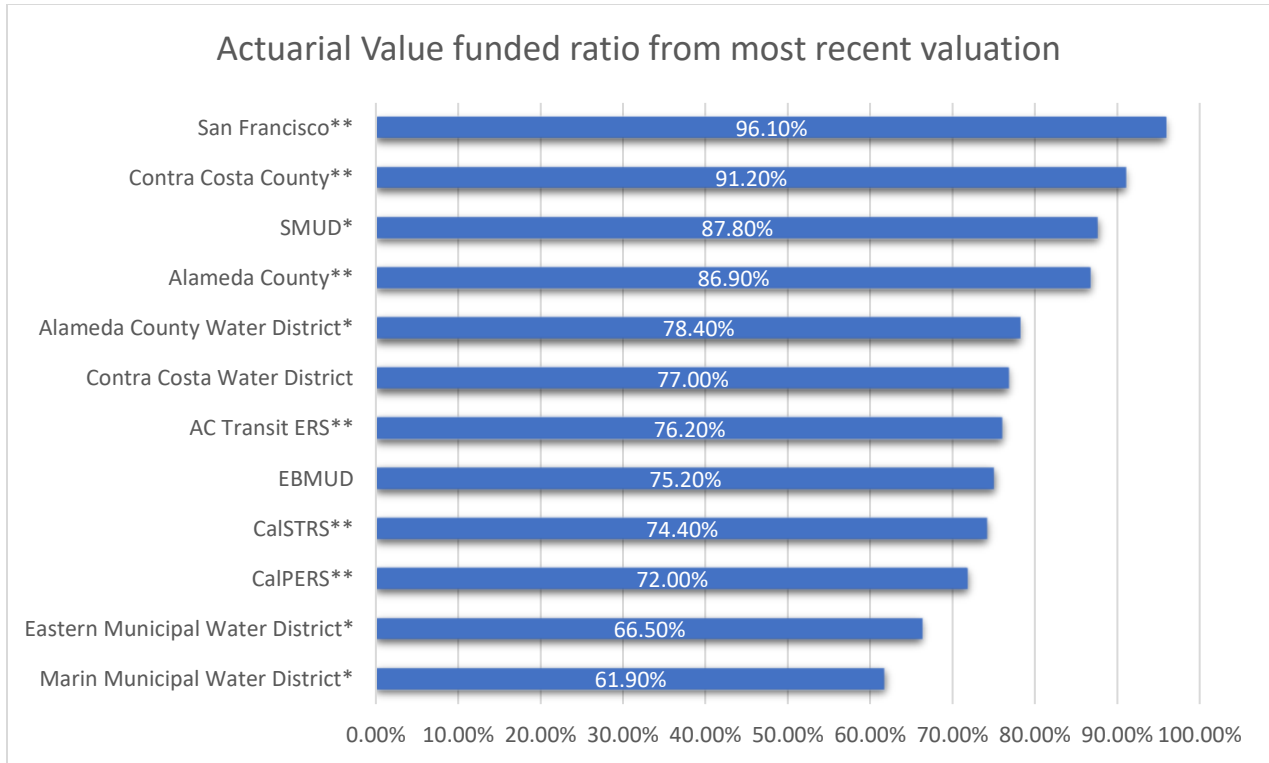
Several factors weighed on the funded status of the Retirement System in FY 2023. While the strong market return increased the size of the investment portfolio, the smoothing-in of past negative market results offset the overall benefit. Additionally, larger than assumed salary increases for active employees and larger than assumed cost of living increases for retirees/beneficiaries also increased the liability. The valuation value of the combined pension

and Health Insurance Benefit (HIB) assets increased from \$2.22 billion in FY 2022 to \$2.31 billion in FY 2023, representing growth of 4.4 percent. Higher growth in liabilities led to the Unfunded Actuarial Accrued Liability (UAAL) increasing from \$751 million to \$812 million lowering the combined pension and HIB funded ratio from 74.7 percent to 74.0 percent.

Overall, between FY 2022 and FY 2023, the pension only funded ratio on a valuation value basis fell slightly from 76.1 percent to 75.2 percent while the HIB funded ratio increased from 44.0 percent to 47.7 percent. The Retirement System has made considerable progress on increasing its funded ratio over the last 15 years. The combined pension and HIB funded ratio increased from 61.4 percent during the Great Recession to the current 74.0 percent. The chart below shows the historical funded ratio for the Retirement System.



The chart below shows the District's pension funded ratio compared to other peer agencies. The Retirement System's 75.2 percent pension only funded ratio compares favorably to its water district peers, while the counties' retirement systems are generally better funded. According to the pension research firm Equable, the average funded ratio for public pensions across the country is estimated at 77.4 percent, putting the Retirement System slightly below the national average. Comparing funded ratios is difficult as there are many assumptions that go into the calculation of a retirement system's liabilities. Over the last few years, the Retirement System has implemented several more conservative actuarial assumptions intended to provide more long-term health and stability for the system. While positive from a long-term stability perspective, these changes had had the effect of increasing the plan's unfunded liability. In order to properly compare system funded ratios, a deep dive into a given plan's assumptions, benefits and demographics would be necessary. Therefore, while the funded ratio of various agencies is provided below, it should not be used to compare the relative health of each retirement system.



*CalPERS member agency (2022 valuations)

**Based on 2022 valuation report

Retirement System Contribution Rates

The FY 2023 valuations led to higher actuarially determined employer contributions for the coming fiscal year. Actuarially determined contributions for FY 2025 are up 0.54 percent to 49.02 percent of covered payroll for 1955/1980 Plan members and up 0.86 percent to 40.07 percent of covered payroll for 2013 Plan members. The employee contribution rates remain unchanged for FY 2025. The Board will consider adopting these new contribution rates at its February 27, 2024 meeting.

Environmental, Social and Governance (ESG) Considerations

In November 2023, the Retirement Board received its fifth annual update on proxy voting from its providers: Glass Lewis for actively managed accounts and Northern Trust Asset Management for passively managed accounts. The Retirement Board continues to explore ways to engage with market participants to enact improved policies on ESG issues. The Retirement System also received its second set of results from Meketa's annual Diversity, Equity, and Inclusion (DEI) survey. This analysis showed the Retirement System's managers generally performing at or above industry-wide standards for DEI policies and practices. Staff continues to look for opportunities to incorporate ESG considerations into the Retirement System's investments.

Benchmarking with Other Retirement Systems

The Retirement System's annual CEM Benchmarking survey results on calendar year 2022 Retirement System data were presented to the Retirement Board in September 2023. CEM Benchmarking is a company that aggregates pension data and compares plans across different metrics like cost, investment returns, portfolio construction and management. Submitting a survey allows the Retirement System access to a free report comparing the system's performance to other plans across all metrics. The Retirement System's net investment portfolio returned -negative 13.4 percent in 2022, compared with 14.3 percent in 2021. The calendar year 2022 results continue to show performance on par with peers and significantly lower fees than the median plan in the survey (18.6 basis points vs. 52.8 basis points).

Asset Allocation Study

Under its Statement of Investment Policy and Procedures, the Retirement System adopts an updated Asset Allocation Study every five years. This study aims to diversify the Retirement System's portfolio and minimize portfolio risk by setting allocations to specific asset classes. The Retirement System is working with its investment advisor to undertake a new asset-liability study to be completed in calendar year 2024. This provides the Retirement System with the opportunity to change allocations across current strategies and managers, and add new asset classes, strategies, or managers. The Retirement Board has received several trainings related to this new study at recent board meetings and is set to begin the modeling process at the meeting on May 23, 2024.

Actuarial Service Request for Proposals (RFP)

Retirement System staff has initiated an RFP for actuarial services. The Retirement System's agreement with its current actuary, Segal, expires in April 2024. The RFP was posted on January 8, 2024 with proposals due on February 5, 2024. The Retirement Board created an Ad Hoc Committee composed of two Retirement Board members and three Retirement Board staff members to review proposals and recommend finalists for interview at the March 21, 2024 Retirement Board meeting.

NEXT STEPS

Staff will present the FY 2023 actuarial valuations and proposed FY 2025 contribution rates at the February 27, 2024 Finance/Administration Committee and Board meetings.

CCC:SDS:SGL

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Employees' Retirement System Fiscal Year 2023 Actuarial Valuations and Fiscal Year 2025 Employer Contribution Rates

SUMMARY

Under Section 22 of Ordinance No. 40, as amended (the Retirement Ordinance), the District's Board of Directors commissions actuarial valuations of the pension and Health Insurance Benefit (HIB) funds of the East Bay Municipal Utility District Employees' Retirement System (Retirement System) and, based on these reports, sets contribution rates to the Retirement System at least once every two years. It has been the practice of the District and Retirement System to adopt actuarial valuations and set rates annually. The Retirement System's actuary has prepared the attached actuarial valuations. The Retirement System's Board (Retirement Board) reviewed and adopted these actuarial valuations at its January 18, 2024 meeting. Additionally, the Retirement Board took action to recommend to the Board of Directors to adopt employer contribution rates for Fiscal Year (FY) 2025 that are equal to the actuarially determined rates in the valuations. The recommended contribution rates are provided herein. This item will be presented at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

Each year the Retirement System's actuary, Segal, prepares actuarial valuations for the pension and HIB plans and presents them to the Retirement Board. The Retirement System and District rely on these reports to set the contribution rates for the following fiscal year. The Pension Valuation, HIB Valuation, and supplemental exhibits are attached.

Funded Status of the Retirement System

The valuation value of the combined pension and HIB assets increased from \$2.22 billion on June 30, 2022 to \$2.31 billion on June 30, 2023, representing growth of 4.4 percent. While investment returns were healthy for this 12-month period, the smoothing-in of previous year investment losses limited the increase on a valuation value basis. The Retirement System's growth in liabilities outpaced the growth in assets, due to salary increases for active employees,

cost of living adjustments for retirees/beneficiaries that were higher than assumed, and lower than expected returns on the smoothed value of assets. This led to an increase in the Unfunded Actuarial Accrued Liability (UAAL) from \$751 million to \$812 million in FY 2023. Between June 30, 2022 and June 30, 2023, the pension funded ratio on a valuation value of assets basis decreased from 76.1 percent to 75.2 percent while the HIB funded ratio increased from 44.0 percent to 47.7 percent. The combined pension and HIB funded ratio decreased from 74.7 percent to 74.0 percent over this time period.

Contribution Rates

The Actuarial Valuations provide the actuarially determined employer contribution rates for both the 1955/1980 and 2013 pension plans and the HIB plan for FY 2024/2025. These rates are presented below along with the rates adopted by the Retirement System for FY 2024.

Actuarially Determined Contribution Rates				
	FY 2025		FY 2024 (Adopted)	
Employer	1955/1980 Plan	2013 Plan	1955/1980 Plan	2013 Plan
Pension	44.59%	35.80%	43.73%	34.69%
HIB	4.43%	4.27%	4.75%	4.52%
Total	49.02%	40.07%	48.48%	39.21%
Member				
Pension	8.66%	9.41%	8.66%	9.41%
HIB	0.09%	0.09%	0.09%	0.09%
Total	8.75%	9.50%	8.75%	9.50%

Employer Contribution Rates

The FY 2025 actuarially determined employer contribution rates for the pension plan in the table above represent increases over those adopted in FY 2024. The increases are due largely to salary increases for active employees, cost of living adjustments for retirees/beneficiaries that were higher than assumed, and lower than expected returns on the smoothed value of assets. The FY 2025 employer contribution rates for the HIB represent a slight decrease over FY 2024. This is due to higher than expected growth in total payroll to pay down the prior year's unfunded actuarial liability.

Employee Contribution Rates

The employee contribution rates are set based on a different methodology for each pension tier. For members of the 1955/1980 Plan, the employee contribution rate is set in the Memoranda of Understanding (MOUs) between the District and its employee unions. For members of the 2013 Plan, the employee rate is calculated based on requirements in the California Public Employees' Pension Reform Act (PEPRA). Both rates remain unchanged for FY 2025. The 1955/1980 Plan employee contribution rate is 8.75 percent of payroll, which includes a 0.09 percent contribution

to the HIB. The 2013 Plan employee contribution rates are 9.41 percent for the pension plan and 0.09 percent for the HIB.

Recommendation of the Retirement Board

At its January 18, 2024 meeting, the Retirement Board took action to adopt the attached actuarial valuations. In addition, the Retirement Board made a recommendation to the Board of Directors to set contribution rates for FY 2025 equal to the actuarially determined rates from the valuations. The table below provides the FY 2025 recommended employer contribution rates, the FY 2025 actuarially determined rates (which match the recommended rates), and the currently adopted FY 2024 rates.

	Staff and Retirement Board Recommended Rates		Actuarially Determined Rates		Adopted Rates	
	FY 2025		FY 2025		FY 2024	
	1955/1980 Plan	2013 Plan	1955/1980 Plan	2013 Plan	1955/1980 Plan	2013 Plan
Pension	44.59%	35.80%	44.59%	35.80%	43.73%	34.69%
HIB	4.43%	4.27%	4.43%	4.27%	4.75%	4.52%
Total	49.02%	40.07%	49.02%	40.07%	48.48%	39.21%

NEXT STEPS

This item will be presented to the Board for consideration at its meeting on February 27, 2024.

CCC:SDS:SGL

- Attachments:
1. Supplemental Exhibits
 2. Actuarial Valuation and Review of Pension Plan Benefits
 3. HIB Review of Contribution Rates and Funding Status

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East Bay Municipal Utility District Employees' Retirement System

**Actuarial Valuation and Review of Pension Plan
and Health Insurance Benefit Plan
as of June 30, 2023**

Supplemental Exhibits



This report has been prepared at the request of the Retirement Board to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Retirement Board and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.



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January 5, 2024

Ms. Sophia Skoda
Director of Finance
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

Re: June 30, 2023 Actuarial Valuations – Supplemental Exhibits

Dear Sophia:

Enclosed please find two exhibits that provide supplemental information to the June 30, 2023 actuarial valuations for the pension and health insurance benefit (HIB) plans.

Exhibit A provides a summary of the funding valuation results for both the pension and HIB plans. In particular, for the HIB plan, this information is based on our HIB funding valuation report dated January 5, 2024 that includes a maximum monthly benefit of \$450 (\$550 benefit for a retiree with a spouse or EBMUD domestic partner). It does not include the accounting liability for the “implicit subsidy” associated with the pooling of the health care premium rate for actives and retirees under age 65.

In Exhibit B, we have included a comparison of the historical Projected Benefit Obligations with the market value of assets for both plans.

We look forward to discussing this information with you and the Board.

Sincerely,

A handwritten signature in black ink that reads "Andy Yeung".

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

A handwritten signature in black ink that reads "Mehdi Riazi".

Mehdi Riazi, FSA, MAAA, FCA, EA
Vice President and Actuary

DNA/jl
Enclosures

Exhibit A

East Bay Municipal Utility District Employees' Retirement System Summary of Significant Valuation Results for the Funding Valuations

	<u>June 30, 2023</u>	<u>June 30, 2022</u>	<u>Change From Prior Year</u>
I. Total Membership			
A. Active Members	1,955	1,895	3.2%
B. Pensioners and Beneficiaries	2,117	2,048	3.4%
II. Valuation Salary⁽¹⁾			
A. Total Projected Compensation	\$262,272,600	\$241,537,720	8.6%
B. Average Projected Compensation	134,155	127,461	5.3%
III. Total System Assets			
A. Valuation Value of Pension Plan Assets	\$2,251,690,803	\$2,158,462,528	4.3%
B. Valuation Value of HIB Plan Assets	<u>62,769,259</u>	<u>57,661,197</u>	8.9%
C. Total Valuation Value (Actuarial Value)	\$2,314,460,062	\$2,216,123,725	4.4%
D. Market Value of Pension Plan Assets	\$2,194,142,000	\$2,005,352,000	9.4%
E. Market Value of HIB Plan Assets	<u>61,165,000</u>	<u>53,571,000</u>	14.2%
F. Total Market Value	\$2,255,307,000	\$2,058,923,000	9.5%
IV. Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio⁽²⁾			
A. Pension Plan	\$742,738,347	\$677,308,564	9.7%
B. Funded Ratio	75.2%	76.1%	-0.9%
C. HIB Plan	\$68,858,196	\$73,290,113	-6.0%
D. Funded Ratio	47.7%	44.0%	3.7%
E. Pension Plan and HIB Plan	\$811,596,543	\$750,598,677	8.1%
F. Funded Ratio	74.0%	74.7%	-0.7%

(1) Projected payroll.

(2) Based on valuation value of assets.

Note: The HIB information is based on our HIB funding valuation report that includes a maximum monthly benefit of \$450 (\$550 for a retiree with a spouse or EBMUD domestic partner). It does not include the accounting liability for the "implicit subsidy" associated with the pooling of the health care premium rate for actives and retirees under age 65.

Exhibit A (continued)

East Bay Municipal Utility District Employees' Retirement System Summary of Significant Valuation Results for the Funding Valuations

	<u>June 30, 2023</u>			<u>June 30, 2022</u>			<u>Change From Prior Year</u>		
V. Projected Benefit Obligation and Funded Ratio⁽³⁾									
A. Pension Plan	\$2,926,665,000			\$2,771,238,000			5.6%		
B. Funded Ratio	75.0%			72.4%			2.6%		
C. HIB Plan	\$138,464,000			\$137,670,000			0.6%		
D. Funded Ratio	44.2%			38.9%			5.3%		
E. Pension Plan and HIB Plan	\$3,065,129,000			\$2,908,908,000			5.4%		
F. Funded Ratio	73.6%			70.8%			2.8%		
VI. Budget Items⁽⁴⁾	<u>FY 2024-2025</u>			<u>FY 2023-2024</u>			<u>Difference</u>		
	1955/1980 <u>Plan</u>	2013 <u>Tier</u>	<u>Combined⁽⁵⁾</u>	1955/1980 <u>Plan</u>	2013 <u>Tier</u>	<u>Combined⁽⁵⁾</u>	1955/1980 <u>Plan</u>	2013 <u>Tier</u>	<u>Combined⁽⁵⁾</u>
A. Pension Plan									
1. Total Normal Cost	27.83%	19.79%	23.76%	27.90%	19.61%	23.70%	-0.07%	0.18%	0.06%
2. Employee Contributions	<u>-8.66%⁽⁶⁾</u>	<u>-9.41%</u>	<u>-9.04%</u>	<u>-8.66%⁽⁶⁾</u>	<u>-9.41%</u>	<u>-9.04%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
3. Employer Normal Cost	19.17%	10.38%	14.72%	19.24%	10.20%	14.66%	-0.07%	0.18%	0.06%
4. UAAL (paid by Employer)	<u>25.42%</u>	<u>25.42%</u>	<u>25.42%</u>	<u>24.49%</u>	<u>24.49%</u>	<u>24.49%</u>	<u>0.93%</u>	<u>0.93%</u>	<u>0.93%</u>
5. Total Employer Contribution	44.59%	35.80%	40.14%	43.73%	34.69%	39.15%	0.86%	1.11%	0.99%
B. HIB Plan									
1. Total Normal Cost	0.95%	0.79%	0.87%	1.08%	0.85%	0.96%	-0.13%	-0.06%	-0.09%
2. Employee Contributions	<u>-0.09%</u>	<u>-0.09%</u>	<u>-0.09%</u>	<u>-0.09%</u>	<u>-0.09%</u>	<u>-0.09%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
3. Employer Normal Cost	0.86%	0.70%	0.78%	0.99%	0.76%	0.87%	-0.13%	-0.06%	-0.09%
4. UAAL (paid by Employer)	<u>3.57%</u>	<u>3.57%</u>	<u>3.57%</u>	<u>3.76%</u>	<u>3.76%</u>	<u>3.76%</u>	<u>-0.19%</u>	<u>-0.19%</u>	<u>-0.19%</u>
5. Total Employer Contribution	4.43%	4.27%	4.35%	4.75%	4.52%	4.63%	-0.32%	-0.25%	-0.28%
C. Total Contribution									
1. Employee Contribution (A2 + B2)	8.75%	9.50%	9.13%	8.75%	9.50%	9.13%	0.00%	0.00%	0.00%
2. Employer Contribution (A5 + B5)	49.02%	40.07%	44.49%	48.48%	39.21%	43.78%	0.54%	0.86%	0.71%

⁽³⁾ Based on market value of assets.

⁽⁴⁾ Contribution rates, payable at the end of each pay period, are expressed as a percentage of projected payroll.

⁽⁵⁾ Aggregated based on June 30, 2023 projected annual payroll.

⁽⁶⁾ The rate of 8.66% payable during fiscal years 2023/2024 and 2024/2025 is calculated by taking the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.

Exhibit B

East Bay Municipal Utility District Employees' Retirement System Comparison of Projected Benefit Obligation with the Market Value of Assets (Dollar Amounts in Thousands)

<u>Actuarial Valuation Date</u>	<u>Projected Benefit Obligation</u>	<u>Market Value of Assets</u>	<u>Funded Ratio</u>
06/30/2002	\$749,113	\$536,449	71.6%
06/30/2003	880,054	545,527	62.0%
06/30/2004	928,434	640,641	69.0%
06/30/2005	999,231	694,590	69.5%
06/30/2006	1,068,966	763,455	71.4%
06/30/2007	1,160,325	911,104	78.5%
06/30/2008	1,289,236	838,614	65.0%
06/30/2009	1,366,207	668,750	48.9%
06/30/2010	1,444,258	769,052	53.2%
06/30/2011	1,498,879	968,239	64.6%
06/30/2012	1,606,973	986,972	61.4%
06/30/2013	1,699,340	1,124,328	66.2%
06/30/2014	1,815,349	1,346,888	74.2%
06/30/2015	1,907,462	1,407,209	73.8%
06/30/2016	2,061,202	1,418,129	68.8%
06/30/2017	2,137,483	1,612,644	75.4%
06/30/2018	2,292,859	1,753,240	76.5%
06/30/2019	2,413,489	1,832,965	75.9%
06/30/2020	2,607,362	1,857,609	71.2%
06/30/2021	2,675,737	2,328,722	87.0%
06/30/2022	2,908,908	2,058,923	70.8%
06/30/2023	3,065,129	2,255,307	73.6%

East Bay Municipal Utility District Employees' Retirement System

Actuarial Valuation and Review of Pension Plan Benefits

As of June 30, 2023



This report has been prepared at the request of the Retirement Board to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Retirement Board and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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January 5, 2024

Ms. Sophia Skoda
Director of Finance
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

Dear Sophia:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2023 for only the pension plan. The Review of Contribution Rates and Funding Status for the health insurance benefit (HIB) plan is provided in a separate report. This report summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2024/2025.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Retirement Board to assist in administering the Plan. The census information and financial information on which our calculations were based was prepared by the East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the

experience of the Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal

A handwritten signature in black ink that reads "Andy Yeung". The signature is written in a cursive style and is positioned above a horizontal line.

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

DNA/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the East Bay Municipal Utility District Employees' Retirement System ("the System") as of June 30, 2023. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Plan, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2023, provided by EBMUDERS;
- The assets of the Plan as of June 30, 2023, provided by EBMUDERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2023 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2023 valuation; and
- The funding policy adopted by the Board.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the System's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

Section 1: Actuarial Valuation Summary

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the revised funding policy adopted by the Board on September 22, 2022. In particular, any changes in the Unfunded Actuarial Accrued Liability (UAAL) as a result of assumption or method changes on or after July 1, 2021 are amortized over 20 years (instead of 25 years). Details of the funding policy are provided in *Section 4, Exhibit 1* starting on page 66.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit G* starting on page 53. A graphical projection of the UAAL amortization balances and payments has been included in *Section 3, Exhibit H* starting on page 55. In the aggregate, the total payment from all the UAAL layers was the same as amortizing the entire UAAL over a period of about 14 years.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2024 through June 30, 2025.

Section 1: Actuarial Valuation Summary

Valuation Highlights

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1. The funded ratio (the ratio of the valuation value of assets to actuarial accrued liability) is 75.2%, compared to the prior year funded ratio of 76.1%. This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a market value basis is 73.3%, compared to 70.7% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions.

In addition to the type of funded ratios noted above, Section 33 of the Employees' Retirement System Ordinance ("Ordinance") references a funded ratio based on the ratio of the market value of assets to the projected benefit obligation (PBO) for purposes of determining post-retirement cost of living adjustments (COLA). As noted in the plan provisions section of this report (*Section 4, Exhibit 2*), the basic minimum COLA benefit is the lesser of 3% and the actual change in the cost of living index. Any excess of the actual change in the cost of living index over 3% is accumulated in individual retiree COLA banks, and withdrawals from the bank are made in years when the index increases less than 3%. However, increases of up to 5% are granted in years when the Retirement Board determines that the System is more than 85% funded on a PBO basis. In those years when the System is more than 85% funded and the cost of living index exceeds 5%, any excess cost of living over 5% is accumulated in the COLA bank. Furthermore, effective October 1, 2000, in those years when the system is more than 85% funded on a PBO basis and the cost of living is less than 4%, withdrawals from the bank are made to allow cost of living increases up to 4%.

For the June 30, 2023 Retirement Plan and HIB Plan valuations, we note that the funded ratio on the PBO (and market value) basis is 73.6% for both plans combined, as shown in the Supplemental Exhibits report dated January 5, 2024.

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2. The UAAL as of June 30, 2022 was \$677.3 million. In this year's valuation, the UAAL has increased to \$742.7 million mainly due to unfavorable investment experience (after asset smoothing), higher than expected salary increases for continuing actives, higher than expected cost-of-living adjustment (COLA) and a contribution loss due to actual contributions lower than expected from the anticipated one-year delay in implementing the higher contribution rates calculated in the last valuation, offset somewhat by miscellaneous actuarial gains.

A reconciliation of the System's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit G*. Note that a graphical projection of the UAAL amortization bases and payments has been provided in *Section 3, Exhibit H*.

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3. An actuarial loss of \$80.8 million, or 2.70% of the Actuarial Accrued Liability, is due to an investment loss of \$28.6 million, a contribution experience loss of \$0.4 million, and a net experience loss from sources other than investments and contributions of \$51.8 million. This loss from sources other than investment and contribution experience was primarily due to higher than expected salary increases for continuing actives and higher than expected cost-of-living adjustment (COLA) increases for payees, offset somewhat by miscellaneous actuarial gains.

Section 1: Actuarial Valuation Summary

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4. This valuation reflects one minor actuarial methodology refinement of applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate. The refinement resulted in a 0.11% of payroll net decrease in the total normal cost rate.
 5. The aggregate employer rate (if paid at the end of each pay period) calculated in this valuation has increased from 39.15% of payroll to 40.14% of payroll. The increase in the employer rate was primarily due to (a) the change in member demographics, (b) the lower than expected return on the valuation value of assets (after smoothing), (c) higher than expected salary increases for continuing actives, (d) higher than expected COLA increases for current retirees and beneficiaries, and (e) the contribution loss due to actual contributions lower than expected from the anticipated one-year delay in implementing the higher contributions rates calculated in the prior valuation, offset somewhat by (f) amortizing the prior year's UAAL over a larger than expected projected total payroll and (g) miscellaneous actuarial gains.
 6. The total normal cost rates for both the 1955/1980 Plan and the 2013 Tier have been developed assuming the normal cost dollar contribution amounts would increase at the rate of the total salary increase assumption. The dollar contribution amounts are then converted to a percent of payroll normal cost rate by dividing the dollar contribution amounts by the payroll after limiting each individual employee's payroll by the appropriate compensation limit. There was an increase in the total normal cost rate for the 2013 Tier due to the changes in member demographics during 2022/2023 as the average salary for continuing active 2013 Tier members increased by more than the increase in the CalPEPRA limit between the June 30, 2022 and 2023 valuations. We will continue to monitor this relationship in future valuations and are available to discuss with the Retirement System other alternatives that could be used in the total normal cost calculation in order to mitigate future rate increases that could result from such event.

Although there was an increase in the total normal cost rate for the 2013 Tier, from 19.61% of payroll in the June 30, 2022 valuation to 19.79% of payroll in the June 30, 2023 valuation, the total normal cost rate for the 2013 Tier remained within 1% of the 18.81% of payroll threshold that was newly established in the June 30, 2020 valuation for determining whether a change in the member rate for that tier would be warranted. Consequently, the member rate for the 2013 Tier has remained unchanged at 9.41% of payroll in this valuation. With that said, it is very likely that the total normal cost rate for the 2013 Tier will increase and will exceed the 1% of the 18.81% threshold in the next valuation as of June 30, 2024.
- Pg. 33
7. The aggregate member rate calculated in this valuation has remained unchanged at 9.04% of payroll. A reconciliation of the aggregate member rate is provided in *Section 2, Subsection F*.
- Pg. 24
8. The rate of return on the Market Value of Assets was 10.62% for the July 1, 2022 to June 30, 2023 plan year. The return on the Valuation Value of Assets (pension plan only) was 5.42% for the same period after considering the recognition of current and prior years' investment gains and losses. This resulted in an actuarial loss when measured against the previous valuation's assumed rate of return of 6.75%. This actuarial investment loss increased the average employer contribution rate by 0.77% of pay.
- Pg. 21
9. As indicated in *Section 2, Subsection B* of this report, the total net unrecognized investment loss as of June 30, 2023 is \$59.2 million for the assets for the pension and HIB plans (note that in the previous valuation, this amount was a net deferred loss of \$157.2

Section 1: Actuarial Valuation Summary

million). This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This implies that earning the assumed rate of investment return of 6.75% per year (net of expenses) on a market value basis will produce investment losses on the actuarial value of assets after June 30, 2023.

The net deferred loss of \$59.2 million represents 2.6% of the market value of assets as of June 30, 2023. Unless offset by future investment gains or other favorable experience, the recognition of the net \$59.2 million market loss is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

- If the pension plan portion of the net deferred loss were recognized immediately and entirely in the valuation value of assets, the funded percentage would decrease from 75.2% to 73.3%.

For comparison purposes, if the pension plan portion of the net deferred loss were recognized immediately and entirely in the valuation value of assets in the June 30, 2022 valuation, the funded percentage would have decreased from 76.1% to 70.7%.

- If the pension plan portion of the net deferred loss were recognized immediately and entirely in the valuation value of assets, the aggregate employer rate (payable at the end of each pay period) would increase from 40.14% to about 41.7% of payroll.

For comparison purposes, if the pension plan portion of the net deferred loss were recognized immediately and entirely in the valuation value of assets in the June 30, 2022 valuation, the aggregate employer rate (payable at the end of each pay period) would have increased from 39.60% of payroll to about 44.1% of payroll.

10. The actuarial valuation report as of June 30, 2023 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

- Pg. 39
11. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that “may reasonably be anticipated to significantly affect the plan’s future financial condition.” Examples of key risks listed that are particularly relevant to EBMUDERS are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

The actuary’s initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan’s design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

Section 1: Actuarial Valuation Summary

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. In 2021 we prepared a standalone Risk Assessment report for the Pension Plan dated April 29, 2021 by using membership and financial information as provided in the actuarial valuation as of June 30, 2020. That report includes various deterministic projections of future results under different investment return scenarios based on the assumptions adopted in the quadrennial experience study for the June 30, 2020 valuation.

We understand that the next stand-alone risk assessment report is not scheduled to be performed until after the next full experience study is conducted, which is scheduled prior to the June 30, 2024 actuarial valuation, unless EBMUDERS decides to have Segal develop a risk assessment report before then. In the meantime, we have included a brief discussion of key risks that may affect the System in Section 2, Subsection J.

Note that this year the risk assessment section includes the disclosure of a “Low-Default-Risk Obligation Measure” (LDRM). This disclosure, along with commentary on the significance of the LDRM, is a new requirement under Actuarial Standard of Practice No. 4 (ASOP 4) for all pension funding actuarial valuation reports.

12. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The Plan’s funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
13. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the UAAL and the principal balance. The funding policy adopted by the Board as described in Section 4, Exhibit 1 meets this standard.
14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the System’s funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer’s financial statements as of June 30, 2023, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

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Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

		June 30, 2023		June 30, 2022	
		Total Rate	Estimated Annual Dollar Amount ¹	Total Rate	Estimated Annual Dollar Amount ¹
Employer Contribution Rates: <i>(payable at the end of each pay period)</i>	• 1955/1980 Plan	44.59%	\$57,738,772	43.73%	\$56,625,174
	• 2013 Tier	35.80%	<u>47,536,829</u>	34.69%	<u>46,062,921</u>
	• Combined	40.14%	\$105,275,601	39.15%	\$102,688,095
Average Member Contribution Rates: <i>(payable at the end of each pay period)</i>	• 1955/1980 Plan	8.66% ²	\$11,213,675	8.66% ²	\$11,213,675
	• 2013 Tier	9.41%	<u>12,495,015</u>	9.41%	<u>12,495,015</u>
	• Combined	9.04%	\$23,708,690	9.04%	\$23,708,690

¹ Estimated based on June 30, 2023 projected annual compensation of \$262,272,600 (that is, \$129,488,164 for the 1955/1980 Plan and \$132,784,436 for the 2013 Tier).

² The rate of 8.66% payable during the fiscal years 2023/2024 and 2024/2025 is calculated by taking the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023	June 30, 2022
Actuarial Accrued Liability:	• Retired members and beneficiaries	\$1,959,982,363	\$1,834,781,122
	• Inactive vested members	59,125,354	55,173,918
	• Active members	<u>975,321,433</u>	<u>945,816,052</u>
	• Total Actuarial Accrued Liability (AAL)	\$2,994,429,150	\$2,835,771,092
	• Normal Cost for plan year beginning June 30 ¹	62,314,596	58,245,086
Assets:	• Valuation value of pension plan assets (VVA) ²	\$2,251,690,803	\$2,158,462,528
	• Market value of pension plan assets (MVA) ²	2,194,142,000	2,005,352,000
	• Actuarial value of pension plan and HIB plan assets	2,314,460,062	2,216,123,725
	• Market value of pension plan and HIB plan assets	2,255,307,000	2,058,923,000
	• Actuarial value of total plan assets as a percentage of market value of total plan assets	102.6%	107.6%
Funded status:	• Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	\$742,738,347	\$677,308,564
	• Funded ratio on VVA basis	75.2%	76.1%
	• UAAL on MVA basis	\$800,287,150	\$830,419,092
	• Funded ratio on MVA basis	73.3%	70.7%
Key assumptions:	• Net investment return	6.75%	6.75%
	• Price Inflation	2.50%	2.50%
	• Real across-the-board increase	0.50%	0.50%
	• Payroll growth increase	3.00%	3.00%
	• Cost of Living Adjustment (COLA)	2.75%	2.75%
	• Amortization period on VVA basis ³	20 years	20 years

¹ Adjusted with interest to middle of the year assuming contributions would be paid at the end of each pay period.

² Net of HIB plan assets.

³ Changes in UAAL as a result of gains or losses for each valuation are amortized over separate 20-year periods. Details on the funding policy are provided in *Section 4, Exhibit 1*.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

	June 30, 2023	June 30, 2022	Change From Prior Year
Demographic data:			
Active Members:			
• Number of members	1,955	1,895	3.2%
• Average age	47.1	47.2	-0.1
• Average service	11.0	11.4	-0.4
• Total projected compensation	\$262,272,600	\$241,537,720	8.6%
• Average projected compensation	\$134,155	\$127,461	5.3%
Retired Members and Beneficiaries:			
• Number of members:			
– Service retired	1,704	1,656	2.9%
– Disability retired	51	53	-3.8%
– Beneficiaries	362	339	6.8%
– Total	2,117	2,048	3.4%
• Average age	71.4	71.0	0.4
• Average monthly benefit	\$5,752	\$5,592	2.9%
Inactive Vested Members:			
• Number of members ¹	381	360	5.8%
• Average Age	48.4	48.3	0.1
Total Members:	4,453	4,303	3.5%

¹ Includes inactive members due a refund of member contributions.

Section 1: Actuarial Valuation Summary

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the System. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there is a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.
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The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the System. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.

If EBMUDERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The System should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the System upon delivery and review. The System should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

A. Member Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive vested members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B, and C.*

Member Population: 2014 – 2023

Year Ended June 30	Active Members	Inactive Vested Members ¹	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2014	1,715	237	1,497	1,734	1.01	0.87
2015	1,762	239	1,563	1,802	1.02	0.89
2016	1,789	248	1,630	1,878	1.05	0.91
2017	1,802	267	1,713	1,980	1.10	0.95
2018	1,828	284	1,779	2,063	1.13	0.97
2019	1,847	303	1,844	2,147	1.16	1.00
2020	1,903	312	1,905	2,217	1.17	1.00
2021	1,896	327	1,977	2,304	1.22	1.04
2022	1,895	360	2,048	2,408	1.27	1.08
2023	1,955	381	2,117	2,498	1.28	1.08

¹ Includes inactive members due a refund of member contributions.

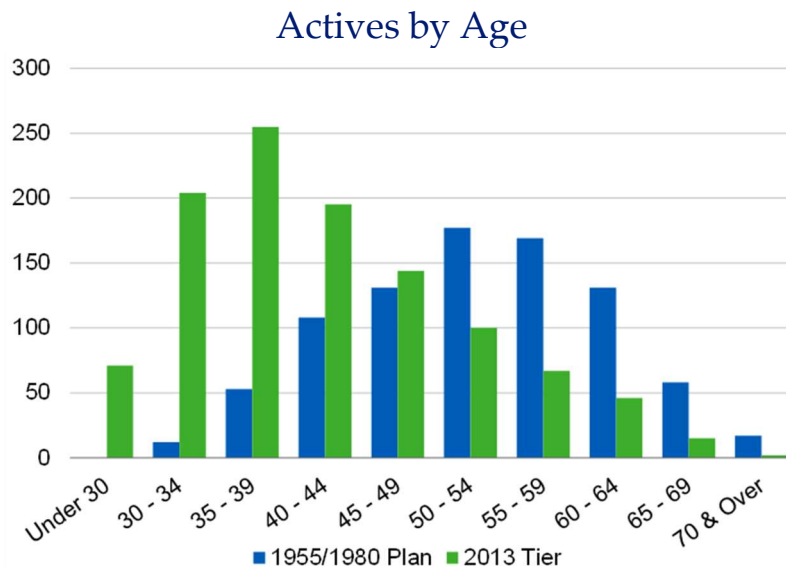
Section 2: Actuarial Valuation Results

Active Members

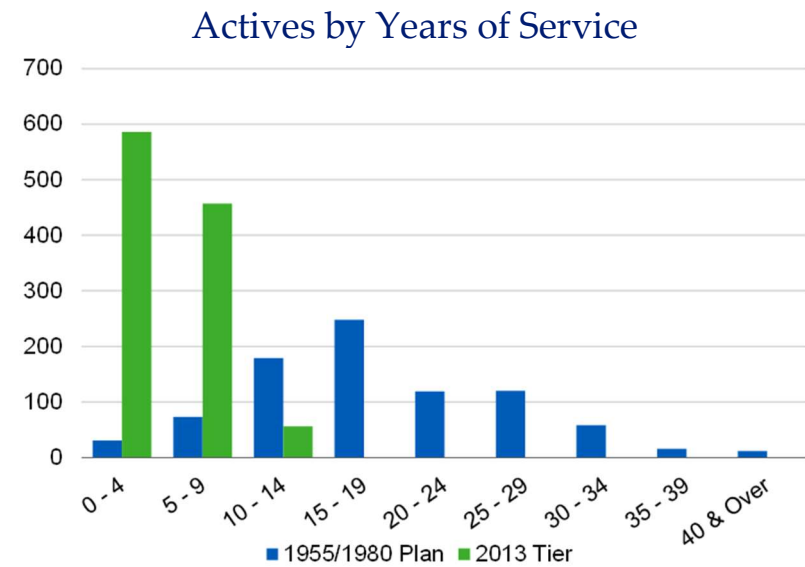
Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 1,955 active members with an average age of 47.1, average years of service of 11.0 years and average compensation of \$134,155. The 1,895 active members in the prior valuation had an average age of 47.2, average service of 11.4 years and average compensation of \$127,461.

Among the active members, there were none with unknown age information.

Distribution of Active Members as of June 30, 2023



Average age	47.1
Prior year average age	<u>47.2</u>
Difference	-0.1



Average years of service	11.0
Prior year average years of service	<u>11.4</u>
Difference	-0.4

Inactive Members

In this year's valuation, there were 381 members with a vested right to a deferred or immediate vested benefit or a refund of contributions, versus 360 in the prior valuation.

Section 2: Actuarial Valuation Results

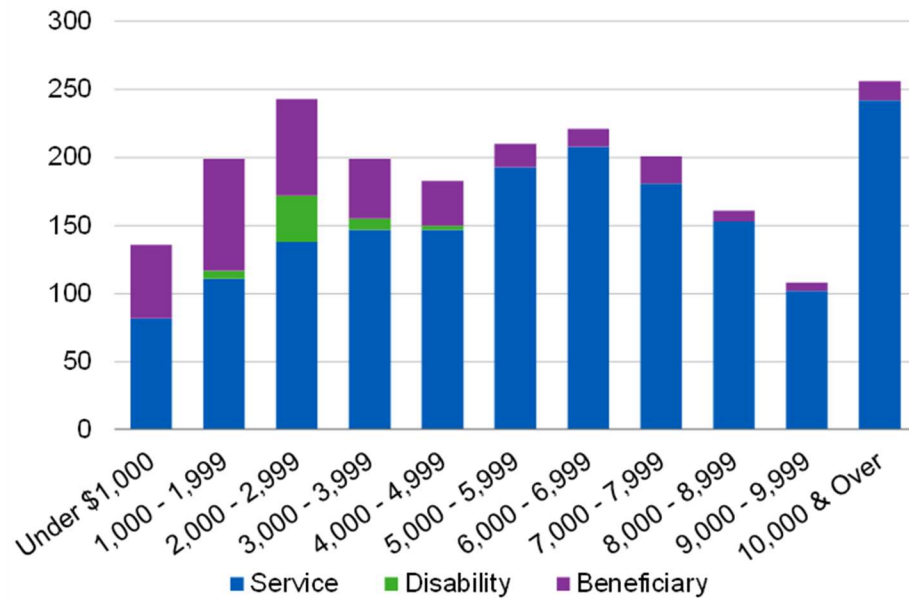
Retired Members and Beneficiaries

As of June 30, 2023, 1,755 retired members and 362 beneficiaries were receiving total monthly benefits of \$12,176,254. For comparison, in the previous valuation, there were 1,709 retired members and 339 beneficiaries receiving monthly benefits of \$11,452,514.

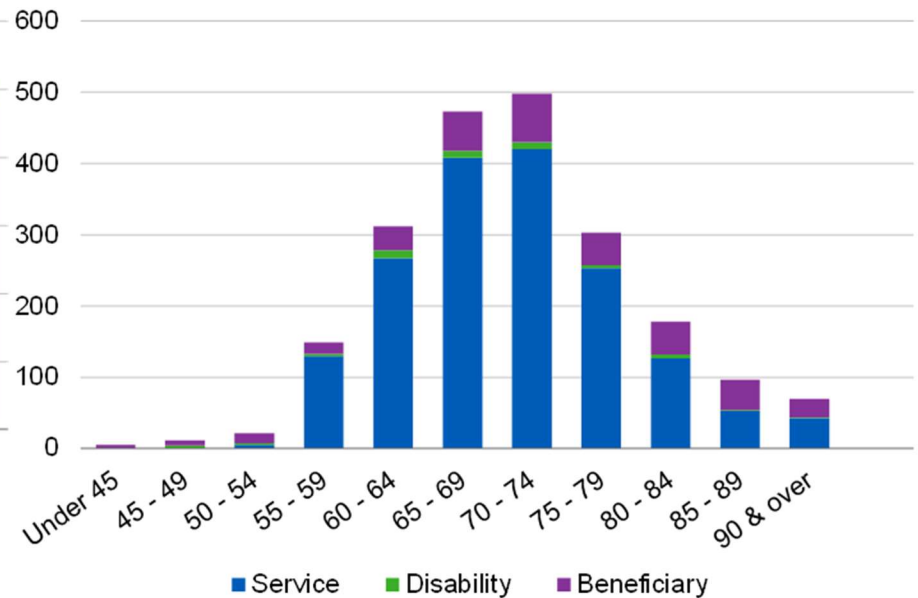
As of June 30, 2023, the average monthly benefit for retired members and beneficiaries is \$5,752, compared to \$5,592 in the previous valuation. The average age for retired members and beneficiaries is 71.4 in the current valuation, compared with 71.0 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2023

Retired Members and Beneficiaries
by Type and Monthly Amount



Retired Members and Beneficiaries
by Type and Age



Section 2: Actuarial Valuation Results

Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics: 2014 – 2023

Year Ended June 30	Active Members			Retired Members and Beneficiaries		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2014	1,715	49.3	14.3	1,497	70.3	\$4,183
2015	1,762	48.8	13.7	1,563	70.1	4,360
2016	1,789	48.5	13.3	1,630	70.1	4,499
2017	1,802	48.0	12.8	1,713	70.1	4,649
2018	1,828	47.8	12.4	1,779	70.2	4,841
2019	1,847	47.6	12.0	1,844	70.3	5,024
2020	1,903	47.3	11.7	1,905	70.6	5,211
2021	1,896	47.4	11.6	1,977	70.8	5,376
2022	1,895	47.2	11.4	2,048	71.0	5,592
2023	1,955	47.1	11.0	2,117	71.4	5,752

Section 2: Actuarial Valuation Results

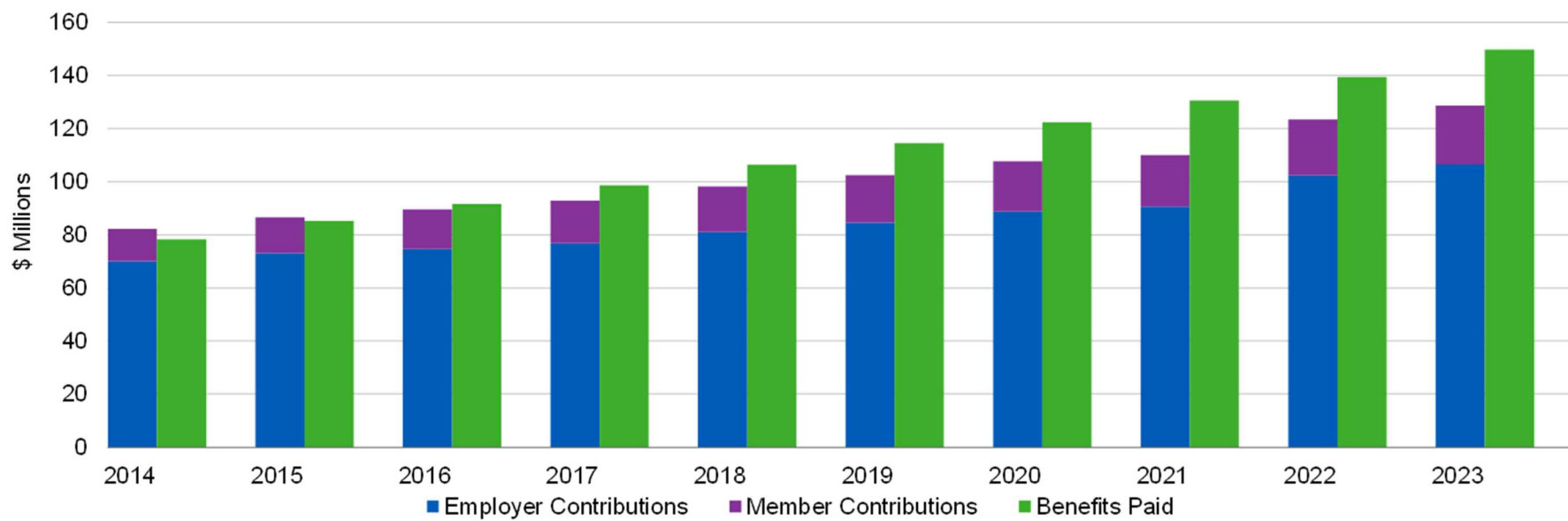
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E and F*.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Comparison of Contributions Made with Benefits
for Years Ended June 30, 2014 – 2023
(Pension and HIB Plans)



Section 2: Actuarial Valuation Results

Determination of Actuarial Value of Assets for Year Ended June 30, 2023

1	Market Value of Assets					
	(a) Pension plan					\$2,194,142,000
	(b) HIB plan					<u>61,165,000</u>
	(c) Total					\$2,255,307,000
2	Calculation of unrecognized return	Actual	Expected	Investment	Percent	Deferred
		Return	Return	Gain/(Loss)	Deferred	Return
a)	Year ended June 30, 2019	\$91,744,000	\$122,306,135	\$(30,562,135)	0%	\$0
b)	Year ended June 30, 2020	39,376,000	127,791,930	(88,415,930)	20	(17,683,186)
c)	Year ended June 30, 2021	491,625,000	129,314,710	362,310,290	40	144,924,116
d)	Year ended June 30, 2022	(253,930,000)	162,455,125	(416,385,125)	60	(249,831,075)
e)	Year ended June 30, 2023	217,559,000	138,262,646	79,296,354	80	<u>63,437,083</u>
f)	Total unrecognized return ¹					\$(59,153,062)
3	Preliminary Actuarial Value of Assets: (1c) - (2f)					\$2,314,460,062
4	Adjustment to be within 30% corridor of market value					0
5	Final Actuarial Value of Assets: 3 + 4:					<u>\$2,314,460,062</u>
6	Actuarial Value of Assets as a percentage of Market Value of Assets: 5 ÷ 1c					102.6%
7	Valuation Value of Pension Plan Assets: 1a ÷ 1c x 5					<u>\$2,251,690,803</u>

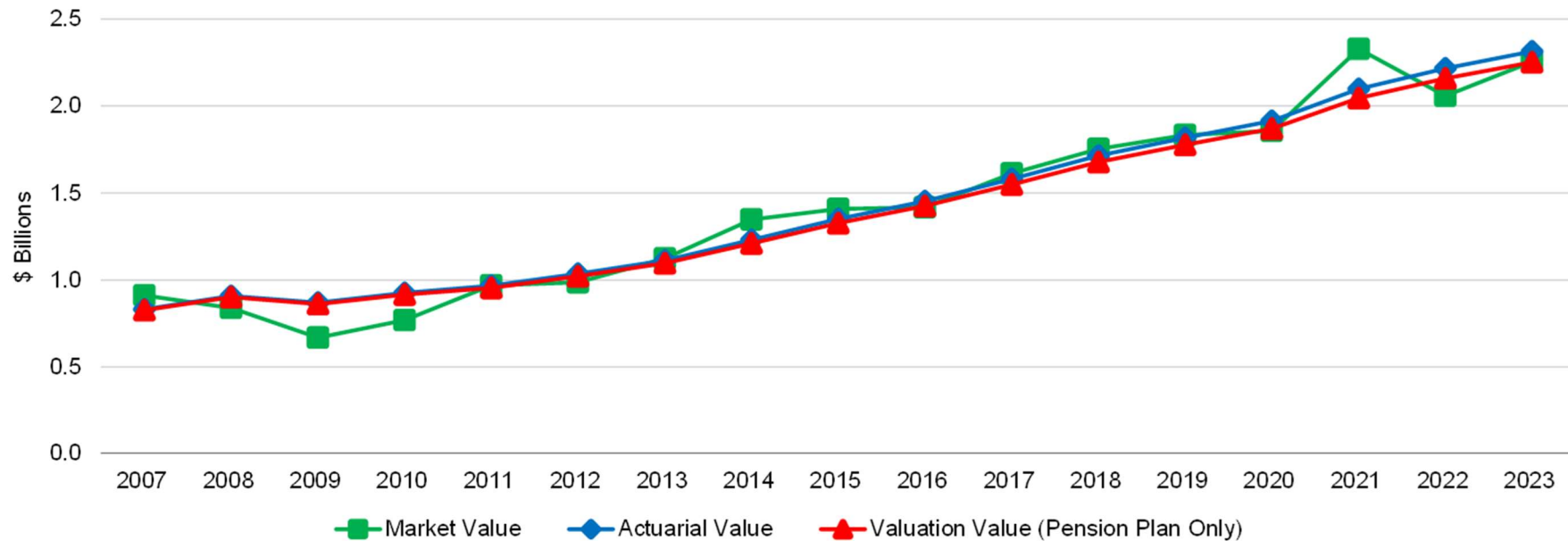
¹ Deferred return as of June 30, 2023 that will be recognized in each of the next four years (amounts may not total exactly due to rounding):

(a)	Amount recognized on June 30, 2024	\$(12,638,882)
(b)	Amount recognized on June 30, 2025	5,044,304
(c)	Amount recognized on June 30, 2026	(67,417,754)
(d)	Amount recognized on June 30, 2027	<u>15,859,271</u>
(e)	Total unrecognized return as of June 30, 2023	\$(59,153,062)

Section 2: Actuarial Valuation Results

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The Valuation Value of Assets is the actuarial value, excluding HIB assets. The Valuation Value of Assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value (Pension Plan Only) of Assets
as of June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

C. Actuarial Experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no assumption changes reflected in this report.

The total loss is \$80.8 million, which includes \$28.6 million from investment losses (after smoothing), a loss of \$0.4 million from contribution experience and \$51.8 million in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 1.73% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2023

1	Net loss from investments ¹	\$(28,574,882)
2	Actual contributions less than expected	(374,644)
3	Net loss from other experience ²	(51,868,389)
4	Net experience loss:³ 1 + 2 + 3	\$(80,817,915)

¹ Details on next page.

² See *Subsection E* for further details.

³ The net loss is attributed to actual liability experience from July 1, 2022 through June 30, 2023 compared to the projected experience based on the actuarial assumptions as of June 30, 2022. It does not include the effect of plan or assumption changes as of June 30, 2023, if any.

Section 2: Actuarial Valuation Results

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the Market Value of Assets was 10.62% for the year ended June 30, 2023.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 6.75% (for the June 30, 2022 valuation). The actual rate of return on a valuation value basis (after smoothing) for the 2022/2023 plan year was 5.42%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended June 30, 2023 with regard to its investments.

Investment Experience for Year Ended June 30, 2023

	Valuation Value (pension plan assets only)	Actuarial Value (includes pension and HIB plan assets)	Market Value (includes pension and HIB plan assets)
1 Net investment income	\$116,341,275	\$119,511,337	\$217,559,000
2 Average value of assets	2,146,906,028	2,205,536,225	2,048,335,500
3 Rate of return: 1 ÷ 2	5.42%	5.42%	10.62%
4 Assumed rate of return	6.75%	6.75%	6.75%
5 Expected investment income: 2 x 4	\$144,916,157	\$148,873,695	\$138,262,646
6 Actuarial gain/(loss): 1 - 5	\$(28,574,882)	\$(29,362,358)	\$79,296,354

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on a valuation value, actuarial value, and market value basis for the last ten years.

Investment Return – Valuation Value, Actuarial Value and Market Value: 2014 – 2023¹

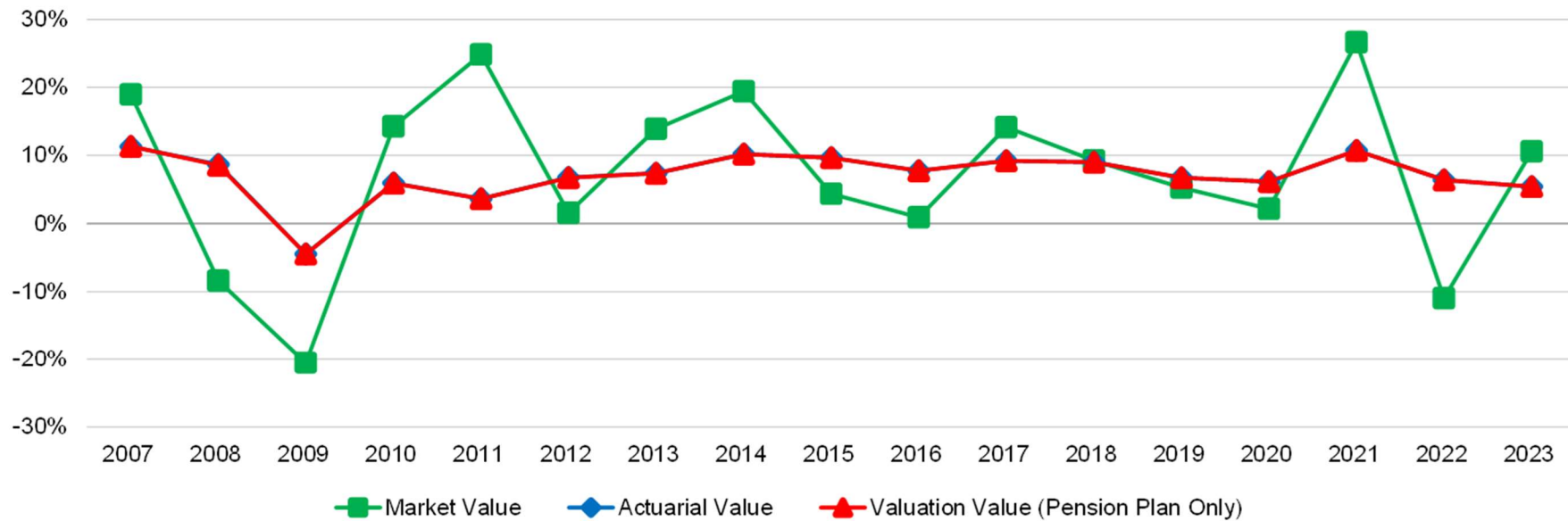
Year Ended June 30	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2014	\$112,077,589	10.22%	\$113,600,558	10.19%	\$218,575,000	19.41%
2015	117,145,293	9.68%	118,952,917	9.67%	58,937,000	4.37%
2016	102,598,231	7.74%	104,468,421	7.74%	12,894,000	0.92%
2017	131,217,766	9.23%	133,617,292	9.22%	200,254,000	14.15%
2018	139,184,681	9.01%	141,900,834	9.00%	148,798,000	9.25%
2019	112,719,164	6.74%	115,218,143	6.74%	91,744,000	5.25%
2020	108,905,040	6.16%	111,447,050	6.16%	39,376,000	2.16%
2021	199,446,791	10.74%	203,946,418	10.71%	491,625,000	26.61%
2022	130,591,533	6.41%	134,280,271	6.43%	(253,930,000)	(10.94)%
2023	116,341,275	5.42%	119,511,337	5.42%	217,559,000	10.62%
Most recent 5-year geometric average return	7.08%		7.08%		6.05%	
Most recent 10-year geometric average return	8.12%		8.11%		7.72%	

¹ Market Value and Actuarial Value of Assets are for the pension plan and the HIB plan. Valuation Value of Assets are for the pension plan only.

Section 2: Actuarial Valuation Results

Section 2, Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market, Actuarial and Valuation (Pension Plan Only)
Rates of Return for Years Ended June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

Contributions

Contributions for the year ended June 30, 2023, when adjusted for timing, totaled \$120.9 million, compared to the projected amount of \$121.3 million (also adjusted for timing). This resulted in a loss of \$0.4 million for the year, when adjusted for timing.

Non-Investment Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- cost-of-living adjustments (COLAs; higher or lower than anticipated).

The net loss from this other experience for the year ended June 30, 2023 amounted to \$51.8 million, which is 1.73% of the Actuarial Accrued Liability. This loss was mainly due to the effect of higher than expected individual salary increases for actives and higher than anticipated COLA increases for current retirees and beneficiaries. See *Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

Section 2: Actuarial Valuation Results

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2023 is \$2.994 billion, an increase of \$158.7 million, or 5.6%, from the liability as of the prior valuation date. The Actuarial Accrued Liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Methods

This valuation reflects one minor actuarial methodology refinement of applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate. The refinement resulting in a 0.11% of payroll net decrease in the total normal cost rate.

Actuarial Assumptions

There were no assumption changes since the prior valuation.

Details on actuarial assumptions and methods are in *Section 4, Exhibit 1*.

Plan Provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in *Section 4, Exhibit 2*.

Section 2: Actuarial Valuation Results

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2023

1	Unfunded actuarial accrued liability at beginning of year	\$677,308,564
2	Total Normal Cost at beginning of year	56,378,319
3	Expected employer and member contributions at beginning of year	(113,620,903)
4	Interest	<u>41,854,452</u>
5	Expected Unfunded Actuarial Accrued Liability at end of year	\$661,920,432
6	Changes due to:	
	a. Investment loss on smoothed value of assets	\$28,574,882
	b. Effect of anticipated one-year delay in implementing the higher contribution rates calculated in the prior valuation	374,644
	c. Loss due to higher than expected salary increases for continuing active members	20,544,168
	d. Loss due to higher than expected COLA increases for current retirees and beneficiaries	34,571,566
	e. Other gains on demographic experience	<u>(3,247,345)</u>
	Total changes	<u>\$80,817,915</u>
7	Unfunded Actuarial Accrued Liability at end of year	<u>\$742,738,347</u>

Note: The “net loss from other experience” of \$51,868,389 from *Subsection C* is equal to the sum of items 6c, 6d and 6e.

Section 2: Actuarial Valuation Results

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2023, the average recommended employer contribution is 40.14% of compensation, payable at the end of each pay period.

The Board sets the funding policy used to calculate the recommended contribution based on layered 20-year¹ amortization periods as a level percentage of payroll. See *Section 4, Exhibit 1* for further details on the funding policy. Based on this policy, there is no negative amortization² and each amortization layer is fully funded in 20 years. As shown in the graphical projection of the UAAL amortization balances and payments found in *Section 3, Exhibit H*, before taking into consideration the deferred investment gains/losses that will be recognized in the next several valuations, the UAAL of the Plan is expected to be fully amortized by 2045,³ assuming all assumptions are realized and contributions are made in accordance with the funding policy.

The current funding policy is intended to fully fund the cost of the benefits and to allocate the cost of benefits reasonably and equitably over time while minimizing the volatility of employer contributions. The recommended contribution is expected to remain level as a percent of payroll, except when any current amortization layer is fully amortized, assuming there are no future actuarial gains or losses. Furthermore, the funded ratio is expected to increase as the UAAL is methodically funded by employer contributions.

The contribution requirement as of June 30, 2023 is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

¹ Changes in UAAL as a result of actuarial gains or losses or as a result of changes in actuarial assumptions or methods (on or after July 1, 2021) for each valuation are amortized over separate 20-year periods. Changes in UAAL as a result of plan changes are amortized over separate 15-year periods.

² Negative amortization means that the amortization payment towards the UAAL is less than the interest on the UAAL and therefore the outstanding balance of the UAAL would increase.

³ The UAAL is expected to be fully amortized later than the 20-year amortization period because of a prior change in assumptions base that was originally established with a 25 year amortization period and which has 22 years remaining as of June 30, 2023.

Section 2: Actuarial Valuation Results

Average Recommended Employer Contribution for Year Ended June 30

All Tiers Combined	2023		2022	
	Amount	% of Projected Compensation	Amount	% of Projected Compensation
1 Total Normal Cost	\$62,314,596	23.76%	\$58,245,086	24.11%
2 Expected member Normal Cost contributions	<u>23,708,690</u>	<u>9.04%</u>	<u>21,744,422</u>	<u>9.00%</u>
3 Employer Normal Cost: 1 – 2	\$38,605,906	14.72%	\$36,500,664	15.11%
4 Actuarial Accrued Liability	2,994,429,150		2,835,771,092	
5 Valuation Value of Assets	<u>2,251,690,803</u>		<u>2,158,462,528</u>	
6 Unfunded Actuarial Accrued Liability: 4 – 5	\$742,738,347		\$677,308,564	
7 Payment on Unfunded Actuarial Accrued Liability	66,669,695	25.42%	59,152,588	24.49%
8 Total average recommended employer contribution: 3 + 7	<u>\$105,275,601</u>	<u>40.14%</u>	<u>\$95,653,252</u>	<u>39.60%</u>
9 Projected compensation	\$262,272,600		\$241,537,720	

Note: Contributions are assumed to be paid at the end of each pay period.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Employer Contribution Rate

The chart below details the changes in the average recommended employer contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

	Contribution Rate	Estimated Annual Dollar Amount ¹
Average <u>Adopted</u> Employer Contribution Rate as of June 30, 2022	39.15%	\$102,688,095
1. Effect of change in membership demographics	0.06%	\$157,364
2. Effect of investment return less than expected on smoothed value of assets	0.77%	2,019,499
3. Effect of individual salary increases higher than expected for continuing active members	0.56%	1,468,727
4. Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(1.26)%	(3,304,635)
5. Effect of higher than expected COLA increases for current retirees and beneficiaries	0.94%	2,465,362
6. Effect of anticipated one-year delay in implementing the higher contribution rates calculated in the prior valuation	0.01%	26,227
7. Effect of other demographic experience gains on accrued liability	<u>(0.09)%</u>	<u>(245,038)</u>
Total change	0.99%	\$2,587,506
Average Recommended Employer Contribution Rate as of June 30, 2023	40.14%	\$105,275,601

¹ Based on June 30, 2023 projected compensation of \$262,272,600.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Member Contribution Rate

The chart below details the changes in the average recommended member contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

	Contribution Rate	Estimated Annual Dollar Amount ¹
Average Recommended Member Contribution as of June 30, 2022	9.04%	\$23,708,690
1. Effect of changes in member demographics	<u>0.00%</u>	<u>\$0</u>
Total changes	0.00%	\$0
Average Recommended Member Contribution as of June 30, 2023	9.04%	\$23,708,690

¹ Based on June 30, 2023 projected compensation of \$262,272,600.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate (% of payroll; payable at the end of each pay period)

	June 30, 2023 Actuarial Valuation		June 30, 2022 Actuarial Valuation	
	Contribution Rate	Estimated Annual Dollar Amount ¹	Contribution Rate	Estimated Annual Dollar Amount ¹
1955/1980 Plan				
Total Normal Cost	27.83%	\$36,036,556	27.90%	\$36,127,198
Expected Employee Contributions	<u>-8.66%</u> ²	<u>-11,213,675</u>	<u>-8.66%</u> ²	<u>-11,213,675</u>
Employer Normal Cost	19.17%	\$24,822,881	19.24%	\$24,913,523
UAAL	<u>25.42%</u>	<u>32,915,891</u>	<u>24.49%</u>	<u>31,711,651</u>
Total Employer Contribution	44.59%	\$57,738,772	43.73%	\$56,625,174
2013 Tier				
Total Normal Cost	19.79%	\$26,278,040	19.61%	\$26,039,028
Expected Employee Contributions	<u>-9.41%</u>	<u>-12,495,015</u>	<u>-9.41%</u>	<u>-12,495,015</u>
Employer Normal Cost	10.38%	\$13,783,025	10.20%	\$13,544,013
UAAL	<u>25.42%</u>	<u>33,753,804</u>	<u>24.49%</u>	<u>32,518,908</u>
Total Employer Contribution	35.80%	\$47,536,829	34.69%	\$46,062,921
Combined				
Total Normal Cost	23.76%	\$62,314,596	23.70%	\$62,166,226
Expected Employee Contributions	<u>-9.04%</u>	<u>-23,708,690</u>	<u>-9.04%</u>	<u>-23,708,690</u>
Employer Normal Cost	14.72%	\$38,605,906	14.66%	\$38,457,536
UAAL	<u>25.42%</u>	<u>66,669,695</u>	<u>24.49%</u>	<u>64,230,559</u>
Total Employer Contribution	40.14%	\$105,275,601	39.15%	\$102,688,095

¹ Amounts are based on the following June 30, 2023 projected annual payroll:

1955/1980 Plan	\$129,488,164
2013 Tier	<u>132,784,436</u>
Combined	\$262,272,600

² The rate of 8.66% payable during the fiscal years 2023/2024 and 2024/2025 is calculated by taking the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.

Section 2: Actuarial Valuation Results

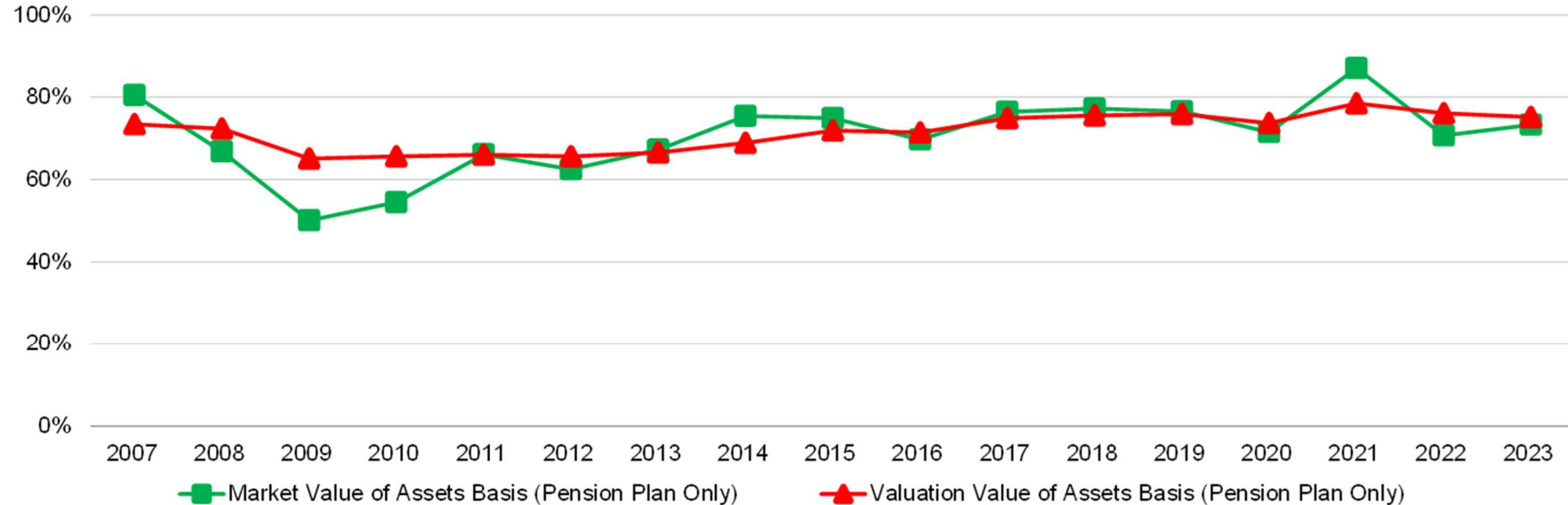
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Valuation Value of Assets and the Market Value of Assets to the Actuarial Accrued Liability of the Plan. Higher ratios indicate a relatively well-funded plan, while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart on the next page shows the Plan's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the Valuation Value or Market Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

Schedule of Funding Progress for Years Ended June 30, 2014 – 2023 (Dollar amounts in thousands)

Actuarial Valuation Date as of June 30,	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
2014	\$1,210,321	\$1,756,706	\$546,385	68.9%	\$167,196	326.8%
2015	1,327,113	1,845,912	518,799	71.9	174,899	296.6
2016	1,425,785	1,995,863	570,078	71.4	183,971	309.9
2017	1,549,213	2,068,015	518,802	74.9	184,859	280.6
2018	1,678,417	2,220,977	542,560	75.6	202,995	267.3
2019	1,777,065	2,340,773	563,708	75.9	212,351	265.5
2020	1,868,917	2,535,238	666,321	73.7	224,412	296.9
2021	2,045,503	2,605,614	560,111	78.5	224,392	249.6
2022	2,158,463	2,835,771	677,308	76.1	241,538	280.4
2023	2,251,691	2,994,429	742,738	75.2	262,273	283.2

Section 2: Actuarial Valuation Results

H. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the Actuarial Present Value of Future Benefits of the Plan.

Second, this Actuarial Present Value of Future Benefits is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer Normal Cost contributions, and the present value of future employer amortization payments for the Unfunded Actuarial Accrued Liability.

Actuarial Balance Sheet

	Year Ended	
	June 30, 2023	June 30, 2022
Actuarial Present Value of Future Benefits		
• Present value of benefits for retired members and beneficiaries	\$1,959,982,363	\$1,834,781,122
• Present value of benefits for inactive vested members	59,125,354	55,173,918
• Present value of benefits for active members	<u>1,507,682,199</u>	<u>1,433,617,383</u>
Total Actuarial Present Value of Future Benefits	<u>\$3,526,789,916</u>	<u>\$3,323,572,423</u>
Current and future assets		
• Total Valuation Value of Assets	\$2,251,690,803	\$2,158,462,528
• Present value of future contributions by members	219,099,771	197,570,495
• Present value of future employer contributions for:		
– Entry age Normal Cost	313,260,995	290,230,836
– Unfunded Actuarial Accrued Liability	<u>742,738,347</u>	<u>677,308,564</u>
Total of current and future assets	<u>\$3,526,789,916</u>	<u>\$3,323,572,423</u>

Section 2: Actuarial Valuation Results

I. Volatility Ratios

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the Market Value of Assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measurement since it is based on the current level of assets.

The current AVR is about 8.4. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.4% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current LVR is about 11.4. This is about 36% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

The chart below shows how the asset and liability volatility ratios have varied over time.

Volatility Ratios for Years Ended June 30, 2014 – 2023

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2014	7.9	10.5
2015	7.9	10.6
2016	7.6	10.8
2017	8.6	11.2
2018	8.5	10.9
2019	8.4	11.0
2020	8.1	11.3
2021	10.1	11.6
2022	8.3	11.7
2023	8.4	11.4

Section 2: Actuarial Valuation Results

J. Risk Assessment

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. We recommend a more detailed assessment of the risks to provide the Board with a better understanding of the risks inherent in the Plan that can inform both financial preparation and future decision making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes they may be interested in discussing and could include scenario testing, sensitivity testing, stress testing and stochastic modeling. As noted in the valuation highlights section of this report, the results of our more detailed risk assessment through the June 30, 2020 valuation date was provided in a separate stand-alone report dated April 29, 2021. That report included investment return scenarios that demonstrated the effects of short-term market volatility on funded status and contribution rates, which may aid in illustrating the effect on the plan of market volatility that can result from events such as COVID-19.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity measures:

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions, they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any changes in the expected experience of asset growth rates.

Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Plan, affecting both

Section 2: Actuarial Valuation Results

funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 38, a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.4% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The year-by-year market value rate of return over the last 10 years has ranged from a low of (10.94)% to a high of 26.61%.

- Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2020 valuation, the Board adopted mortality tables based on public plan experience that are weighted by benefits and include generational mortality projections.

- Other Risks

In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different pension plans.

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employer has a proven track-record of making at least the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the Valuation Value of Assets basis has increased from 68.9% to 75.2%. This is primarily due to contributions made to amortize the UAAL under the Board's actuarial funding policy. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 35.

Section 2: Actuarial Valuation Results

- The average geometric investment return on the Actuarial Value of Assets over the most recent 10-year period was 8.11%. This includes a high of a 10.71% return and a low of 5.42%. The average over the last 5 years was 7.08%. For more details see the Investment Return table in *Section 2, Subsection C* on page 25.
- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in:
 - 2016 included a change in the discount rate from 7.50% to 7.25%, adding \$52.6 million in unfunded liability;
 - 2018 included a change in the discount rate from 7.25% to 7.00%, adding \$12.5 million in unfunded liability;
 - 2020 included the use of amount-weighted mortality tables projected generationally to better reflect future mortality improvement, adding \$104.8 million in unfunded liability; and
 - 2022 includes a change in the discount rate from 7.00% to 6.75%, adding \$72.1 million in unfunded liability.For more details on unfunded liability changes see *Section 3, Exhibit G, Table of Amortization Bases* starting on page 53.
- The plan's funding policy effectively deals with these unfunded liabilities over time.¹ This can be seen most clearly in the *Section 3, Exhibit H, Projection of UAAL Balances and Payments* provided on pages 55 and 56.

Maturity Measures

In the last 10 years the ratio of retired members and beneficiaries to active members has increased from 0.87 to 1.08. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 16.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year, benefits paid were \$21.2 million more than contributions received.² Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions Made with Benefits in *Section 2, Subsection B* on page 20. A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* on page 38.

¹ In addition, during the last ten years, the Board had on five occasions elected to continue to carry over the higher employer contribution rates in a previous valuation even though the employer contribution rates would have come down in the absence of such action. The Board made that election for the purpose of accelerating the payment of the UAAL.

² Under the Retirement Board's actuarial funding policy, current assets plus the present value of future (employer and member) contributions will always be equal to the present value of benefits expected to be paid by the System. Based on the understanding that the present value of future contributions includes both the amounts required to pay the ongoing normal cost and any unfunded liabilities, it appears that the minimum contribution limit pursuant to Section 12335 of the Public Utilities Code does not apply.

Section 2: Actuarial Valuation Results

Low-Default-Risk Obligation Measure (LDRM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDRM) when performing a funding valuation. The LDRM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDRM is required to be calculated using “a discount rate...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 LDRM is a calculation assuming a plan’s assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of public pension plan liabilities. The LDRM is not used to determine a plan’s funded status or Actuarially Determined Contribution Rate. The plan’s expected return on assets, currently 6.75%, is used for these calculations.

As of June 30, 2023, the LDRM for the System is \$4.515 billion. The difference between the System’s AAL of \$2.994 billion and the LDRM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan’s diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDRM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,955	1,895	3.2%
• Average age	47.1	47.2	-0.1
• Average years of service	11.0	11.4	-0.4
• Total projected compensation	\$262,272,600	\$241,537,720	8.6%
• Average projected compensation	\$134,155	\$127,461	5.3%
• Account balances	\$248,277,401	\$235,786,215	5.3%
• Total active vested members	1,338	1,297	3.2%
Inactive vested members:			
• Number ¹	381	360	5.8%
• Average Age	48.4	48.3	0.1
Retired members:			
• Number in pay status	1,704	1,656	2.9%
• Average age	71.0	70.6	0.4
• Average monthly benefit	\$6,332	\$6,131	3.3%
Disabled members:			
• Number in pay status	51	53	-3.8%
• Average age	67.4	66.8	0.6
• Average monthly benefit	\$2,653	\$2,550	4.0%
Beneficiaries:			
• Number in pay status	362	339	6.8%
• Average age	73.8	73.2	0.6
• Average monthly benefit	\$3,456	\$3,434	0.6%

¹ Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

1955/1980 Plan

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	856	924	-7.4%
• Average age	53.3	52.9	0.4
• Average years of service	18.9	18.5	0.4
• Total projected compensation	\$129,488,164	\$131,236,899	-1.3%
• Average projected compensation	\$151,271	\$142,031	6.5%
• Account balances	\$192,745,940	\$192,084,135	0.3%
• Total active vested members	825	887	-7.0%
Inactive vested members:			
• Number ¹	211	214	-1.4%
• Average Age	52.9	52.4	0.5
Retired members:			
• Number in pay status	1,694	1,648	2.8%
• Average age	71.1	70.7	0.4
• Average monthly benefit	\$6,363	\$6,156	3.4%
Disabled members:			
• Number in pay status	51	53	-3.8%
• Average age	67.4	66.8	0.6
• Average monthly benefit	\$2,653	\$2,550	4.0%
Beneficiaries:			
• Number in pay status	362	339	6.8%
• Average age	73.8	73.2	0.6
• Average monthly benefit	\$3,456	\$3,434	0.6%

¹ Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

2013 Tier

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,099	971	13.2%
• Average age	42.2	41.8	0.4
• Average years of service	4.9	4.6	0.3
• Total projected compensation	\$132,784,436	\$110,300,821	20.4%
• Average projected compensation	\$120,823	\$113,595	6.4%
• Account balances	\$55,531,461	\$43,702,080	27.1%
• Total active vested members	513	410	25.1%
Inactive vested members:			
• Number ¹	170	146	16.4%
• Average Age	42.8	42.4	0.4
Retired members:			
• Number in pay status	10	8	25.0%
• Average age	67.0	66.9	0.1
• Average monthly benefit	\$1,161	\$1,039	11.7%
Disabled members:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

¹ Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation

Total Plan

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	7	7	—	—	—	—	—	—	—	—
	\$103,361	\$103,361	—	—	—	—	—	—	—	—
25 - 29	64	58	6	—	—	—	—	—	—	—
	115,649	114,229	\$129,373	—	—	—	—	—	—	—
30 - 34	216	140	64	12	—	—	—	—	—	—
	120,553	113,638	131,951	\$140,444	—	—	—	—	—	—
35 - 39	308	145	123	34	6	—	—	—	—	—
	124,317	114,391	129,322	145,084	\$143,894	—	—	—	—	—
40 - 44	303	102	105	45	46	5	—	—	—	—
	132,971	114,892	129,190	149,576	159,895	\$184,035	—	—	—	—
45 - 49	275	67	87	45	45	26	5	—	—	—
	140,548	123,635	132,342	145,664	160,702	162,891	\$166,350	—	—	—
50 - 54	277	45	63	37	50	37	35	9	1	—
	142,362	121,016	134,139	149,018	149,401	150,298	152,961	\$158,614	\$211,945	—
55 - 59	236	30	46	22	57	24	37	19	1	—
	142,323	120,563	130,551	135,606	149,696	153,114	150,985	161,514	120,172	—
60 - 64	177	19	25	25	34	15	27	20	10	2
	143,294	121,744	122,818	153,044	146,420	146,777	153,131	146,875	148,178	\$209,816
65 - 69	73	3	10	13	8	10	8	9	4	8
	135,772	113,234	112,746	142,875	125,771	107,364	144,611	151,757	153,665	171,204
70 & over	19	1	1	2	2	2	8	1	—	2
	135,823	110,935	146,042	155,142	132,275	123,222	140,847	93,888	—	140,857
Total	1,955	617	530	235	248	119	120	58	16	12
	\$134,155	\$116,165	\$130,201	\$146,361	\$152,023	\$150,528	\$151,584	\$153,336	\$151,785	\$172,581

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

1955/1980 Plan

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	12	3	1	8	—	—	—	—	—	—
35 – 39	53	5	16	26	6	—	—	—	—	—
40 – 44	108	6	16	35	46	5	—	—	—	—
45 – 49	131	7	13	35	45	26	5	—	—	—
50 – 54	177	3	15	27	50	37	35	9	1	—
55 – 59	169	7	9	15	57	24	37	19	1	—
60 – 64	131	—	3	20	34	15	27	20	10	2
65 – 69	58	—	—	11	8	10	8	9	4	8
70 & over	17	—	—	2	2	2	8	1	—	2
Total	856	31	73	179	248	119	120	58	16	12
	\$151,271	\$150,982	\$145,431	\$150,802	\$152,023	\$150,528	\$151,584	\$153,336	\$151,785	\$172,581

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

2013 Tier

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	7	7	—	—	—	—	—	—	—	—
	\$103,361	\$103,361	—	—	—	—	—	—	—	—
25 – 29	64	58	6	—	—	—	—	—	—	—
	115,649	114,229	\$129,373	—	—	—	—	—	—	—
30 – 34	204	137	63	4	—	—	—	—	—	—
	119,254	113,092	131,607	\$135,713	—	—	—	—	—	—
35 – 39	255	140	107	8	—	—	—	—	—	—
	120,038	114,347	125,960	140,409	—	—	—	—	—	—
40 – 44	195	96	89	10	—	—	—	—	—	—
	120,792	113,255	127,795	130,826	—	—	—	—	—	—
45 – 49	144	60	74	10	—	—	—	—	—	—
	125,279	115,888	131,834	133,123	—	—	—	—	—	—
50 – 54	100	42	48	10	—	—	—	—	—	—
	124,934	119,216	129,020	129,335	—	—	—	—	—	—
55 – 59	67	23	37	7	—	—	—	—	—	—
	120,144	110,682	124,242	129,566	—	—	—	—	—	—
60 – 64	46	19	22	5	—	—	—	—	—	—
	121,819	121,744	120,539	127,741	—	—	—	—	—	—
65 – 69	15	3	10	2	—	—	—	—	—	—
	114,914	113,234	112,746	128,277	—	—	—	—	—	—
70 & over	2	1	1	—	—	—	—	—	—	—
	128,489	110,935	146,042	—	—	—	—	—	—	—
Total	1,099	586	457	56	—	—	—	—	—	—
	\$120,823	\$114,323	\$127,768	\$132,164	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members ¹	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2022	1,895	360	1,656	53	339	4,303
• New members	166	0	0	0	34	200
• Terminations – with vested rights	-35	35	0	0	0	0
• Contribution refunds	-5	-9	0	0	0	-14
• Retirements	-67	-14	81	0	0	0
• New disabilities	0	0	0	0	0	0
• Return to work	3	-3	0	0	0	0
• Died with or without beneficiary	-2	0	-32	-2	-11	-47
• Data adjustments	0	12 ²	-1	0	0	11
Number as of June 30, 2023	1,955	381	1,704	51	362	4,453

¹ Includes inactive members due a refund of member contributions.

² Includes 6 members who were hired and terminated during fiscal 2022/2023, 4 members who were previously categorized as having taken a refund of member contributions, and 2 members who were classified by EBMUDERS as terminated non-vested but who had member contributions still on file.

Section 3: Supplemental Information

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis for all Pension Plan and HIB Plan Assets

	Year Ended June 30, 2023	Year Ended June 30, 2022
Net assets at market value at the beginning of the year	\$2,058,923,000	\$2,328,722,000
Contribution income:		
• Employer contributions	\$106,523,000	\$102,285,000
• Member contributions	<u>22,088,000</u>	<u>21,127,000</u>
Net contribution income	\$128,611,000	\$123,412,000
Investment income:		
• Interest, dividends and other income	\$38,553,000	\$28,386,000
• Asset appreciation	187,897,000	(276,684,000)
• Less investment and administrative fees	<u>(8,891,000)</u>	<u>(5,632,000)</u>
Net investment income	<u>\$217,559,000</u>	<u>\$(253,930,000)</u>
Total income available for benefits	\$346,170,000	\$(130,518,000)
Less benefit payments:		
• Benefits paid	\$(149,102,000)	\$(138,582,000)
• Refund of contributions	<u>(684,000)</u>	<u>(699,000)</u>
Net benefit payments	<u>\$(149,786,000)</u>	<u>\$(139,281,000)</u>
Change in net assets at market value	\$196,384,000	\$(269,799,000)
Net assets at market value at the end of the year	\$2,255,307,000	\$2,058,923,000

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit E: Summary Statement of Plan Assets

	June 30, 2023	June 30, 2022
Cash equivalents:	\$27,677,000	\$25,336,000
Accounts receivable:		
• Brokers, securities sold	\$2,854,000	\$923,000
• Employer and member contributions	4,493,000	3,840,000
• Interest, dividends and recoverable taxes	<u>4,833,000</u>	<u>4,700,000</u>
Total accounts receivable	\$12,180,000	\$9,463,000
Investments:		
• Equities	\$1,581,310,000	\$1,413,921,000
• Fixed income investments	515,694,000	487,236,000
• Real estate	122,000,000	125,557,000
• Securities lending collateral	77,906,000	101,249,000
• Capital assets	1,692,000	0
• Prepaid expenses	<u>575,000</u>	<u>568,000</u>
Total investments at market value	<u>\$2,299,177,000</u>	<u>\$2,128,531,000</u>
Total assets	\$2,339,034,000	\$2,163,330,000
Accounts payable:		
• Accounts payable and accrued expenses	\$(3,224,000)	\$(2,447,000)
• Payables to brokers, securities purchased	(2,597,000)	(711,000)
• Securities lending collateral	<u>(77,906,000)</u>	<u>(101,249,000)</u>
Total accounts payable	\$(83,727,000)	\$(104,407,000)
Net assets at market value	<u>\$2,255,307,000</u>	<u>\$2,058,923,000</u>
Net assets at actuarial value	<u>\$2,314,460,062</u>	<u>\$2,216,123,725</u>
Net assets at valuation value (Pension Plan Only)	<u>\$2,251,690,803</u>	<u>\$2,158,462,528</u>

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit F: Development of the Fund through June 30, 2023 for all Pension Plan and HIB Plan Assets

Year Ended June 30	Employer Contributions	Member Contributions	Net Investment Return ¹	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2014	\$70,117,000	\$12,133,000	\$218,575,000	\$78,265,000	\$1,346,888,000	\$1,229,955,379	91.3%
2015	73,141,000	13,427,000	58,937,000	85,184,000	1,407,209,000	1,350,292,296	96.0%
2016	74,672,000	14,925,000	12,894,000	91,571,000	1,418,129,000	1,452,786,717	102.4%
2017	76,860,000	16,018,000	200,254,000	98,617,000	1,612,644,000	1,580,665,009	98.0%
2018	81,096,000	17,079,000	148,798,000	106,377,000	1,753,240,000	1,714,363,843	97.8%
2019	84,551,000	17,865,000	91,744,000	114,435,000	1,832,965,000	1,817,562,986	99.2%
2020	88,734,000	18,885,000	39,376,000	122,351,000	1,857,609,000	1,914,278,036	103.1%
2021	90,624,000	19,336,000	491,625,000	130,472,000	2,328,722,000	2,097,712,454	90.1%
2022	102,285,000	21,127,000	(253,930,000)	139,281,000	2,058,923,000	2,216,123,725	107.6%
2023	106,523,000	22,088,000	217,559,000	149,786,000	2,255,307,000	2,314,460,062	102.6%

¹ On a market value basis, net of investment fees and administrative expenses.

Section 3: Supplemental Information

Exhibit G: Table of Amortization Bases

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment ¹
Experience Gain	06/30/2000	\$(10,871,830)	30	\$(8,637,727)	7	\$(1,370,198)
Change in Assumptions	06/30/2000	8,629,891	30	6,856,497	7	1,087,642
Plan Amendments	06/30/2000	13,607,265	30	10,811,046	7	1,714,950
3.5% Retiree COLA Assumption	06/30/2000	27,057,441	30	21,497,287	7	3,410,102
Experience Loss	06/30/2001	2,292,281	30	1,964,171	8	277,325
Experience Loss	06/30/2002	26,232,251	30	23,865,999	9	3,046,562
Plan Amendments	06/30/2002	5,111,914	30	4,650,796	9	593,687
Experience Loss	06/30/2003	43,692,270	30	41,691,103	10	4,871,277
Plan Amendments	06/30/2003	67,138,578	30	64,063,531	10	7,485,319
Experience Loss	06/30/2004	32,731,232	30	32,433,068	11	3,503,284
New Assumption / Domestic Partners	06/30/2004	(9,812,646)	30	(9,723,260)	11	(1,050,266)
Experience Loss	06/30/2005	26,910,233	30	27,465,202	12	2,765,133
Remove Limit Pension Base	06/30/2005	27,315,928	30	27,752,556	12	2,794,064
Experience Loss	06/30/2006	14,160,133	30	14,784,375	13	1,396,892
Experience Gain	06/30/2007	(3,098,126)	30	(3,289,907)	14	(293,428)
Experience Gain	06/30/2008	(7,800,585)	30	(8,382,940)	15	(709,330)
Change in Assumptions	06/30/2008	51,413,374	30	55,251,662	15	4,675,171
Experience Loss	06/30/2009	114,894,458	30	124,415,515	16	10,031,124
Experience Loss	06/30/2010	3,039,098	30	3,303,564	17	254,762
Change in Assumptions	06/30/2010	8,098,499	30	8,803,241	17	678,883
Experience Loss	06/30/2011	4,428,038	30	4,819,200	18	356,668
Experience Gain	06/30/2012	(15,668,764)	20	(12,239,654)	9	(1,562,426)
Change in Assumptions	06/30/2012	53,400,521	25	51,601,242	14	4,602,336

¹ Beginning of year payment, reflecting level percentage of payroll.

Section 3: Supplemental Information

Exhibit G: Table of Amortization Bases (continued)

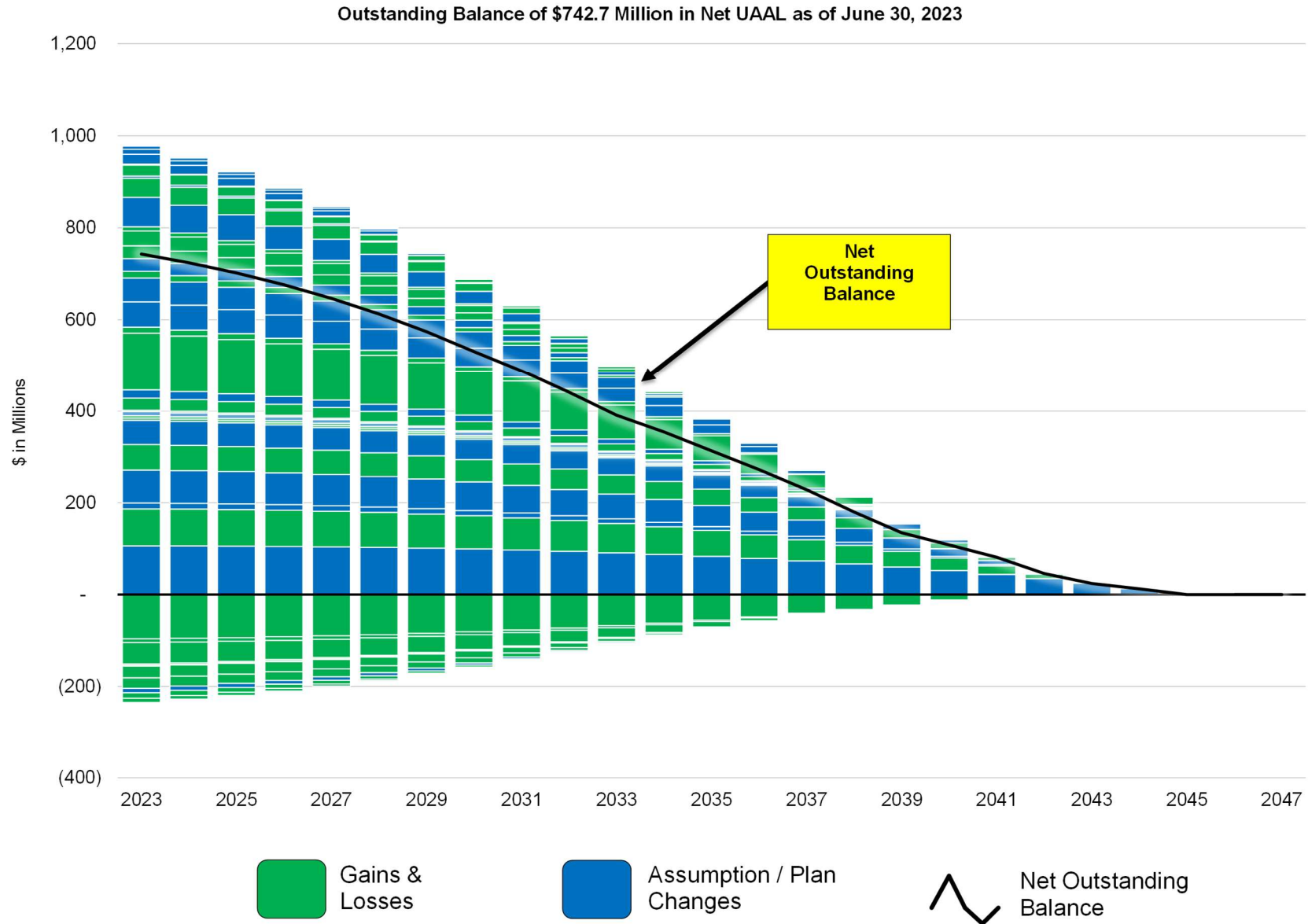
Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment ¹
Experience Loss	06/30/2013	\$10,858,322	20	\$8,924,458	10	\$1,042,753
Experience Gain	06/30/2014	(26,406,581)	20	(22,610,099)	11	(2,442,248)
Change in Assumptions	06/30/2014	18,421,049	25	18,265,734	16	1,472,693
Experience Gain	06/30/2015	(28,955,525)	20	(25,678,709)	12	(2,585,273)
Experience Gain	06/30/2016	(1,408,751)	20	(1,285,146)	13	(121,426)
Change in Assumptions	06/30/2016	52,595,760	25	52,955,822	18	3,919,250
Experience Gain	06/30/2017	(50,022,788)	20	(46,710,776)	14	(4,166,153)
Experience Loss	06/30/2018	14,053,082	20	13,365,208	15	1,130,910
Change in Assumptions	06/30/2018	12,484,391	25	12,632,131	20	868,548
Experience Loss	06/30/2019	26,728,885	20	25,839,668	16	2,083,349
Experience Loss	06/30/2020	5,281,313	20	5,170,058	17	398,701
Change in Assumptions	06/30/2020	104,813,640	25	106,062,581	22	6,840,557
Experience Gain	06/30/2021	(97,336,901)	20	(96,165,305)	18	(7,117,175)
Experience Loss	06/30/2022	56,034,517	20	55,704,018	19	3,968,350
Change in Assumptions	06/30/2022	72,119,593	20	71,694,222	19	5,107,491
Experience Loss	06/30/2023	80,817,915	20	<u>80,817,915</u>	20	<u>5,556,800</u>
Total				\$742,738,347		\$64,516,660

Note: The equivalent single amortization period is about 14 years.

¹ Beginning of year payment, reflecting level percentage of payroll.

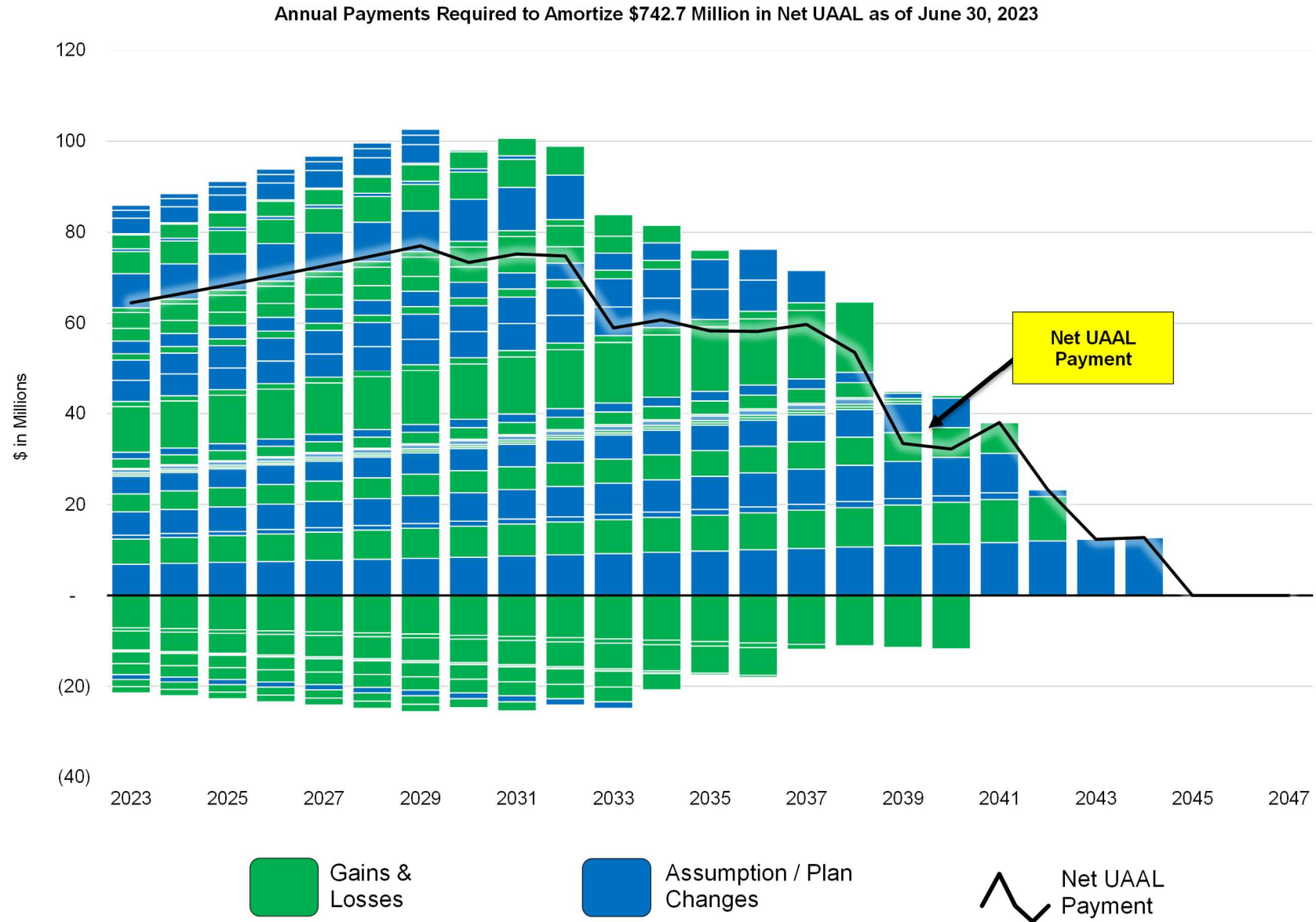
Section 3: Supplemental Information

Exhibit H: Projection of UAAL Balances and Payments



Section 3: Supplemental Information

Exhibit H: Projection of UAAL Balances and Payments (continued)



Section 3: Supplemental Information

Exhibit I: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated Normal Costs allocated to the years before the Valuation Date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the Actuarially Determined Contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	<p>The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is:</p> <p>Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)</p> <p>Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and</p> <p>Discounted according to an assumed rate (or rates) of return to reflect the time value of money.</p>

Section 3: Supplemental Information

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	<p>The estimates upon which the cost of the Fund is calculated, including:</p> <p><u>Investment return</u> - the rate of investment yield that the Fund will earn over the long-term future;</p> <p><u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates;</p> <p><u>Retirement rates</u> - the rate or probability of retirement at a given age or service;</p> <p><u>Disability rates</u> - the probability of disability retirement at a given age;</p> <p><u>Withdrawal rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.</p>
Closed Amortization Period:	<p>A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.</p>
Decrements:	<p>Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.</p>
Defined Benefit Plan:	<p>A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.</p>
Defined Contribution Plan:	<p>A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.</p>
Employer Normal Cost:	<p>The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.</p>
Experience Study:	<p>A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.</p>
Funded Ratio:	<p>The ratio of the Actuarial Value of Assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.</p>
Investment Return:	<p>The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.</p>

Section 3: Supplemental Information

Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions and Methods:	The information and analysis used in selecting each assumption and method that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2020 Actuarial Experience Study report dated November 12, 2020, the Actuarial Funding Policy review letter dated September 14, 2022, and the June 30, 2022 Economic Assumptions Review report dated November 8, 2022. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both tiers. These assumptions and methods were adopted by the Board.
<u>Economic Assumptions:</u>	
Net Investment Return:	6.75%; net of administrative and investment expenses. Based on the Economic Assumptions Review referenced above, expected administrative and investment expenses represent about 0.25% of the average Market Value of Assets.
Employee Contribution Crediting Rate:	6.75%, compounded semi-annually.
Cost of Living Adjustment (COLA):	Retiree COLA increases of 2.75% per year. For members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3.00% per year.
Payroll Growth:	Inflation of 2.50% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.50% per year from the valuation date.
Increase in California Government Code Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.

Section 4: Actuarial Valuation Basis

Salary Increases:

The annual rate of compensation increase includes: inflation at 2.50%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases	
Time from Hire (Years)	Rate (%)
Less than 1	6.25
1 – 2	6.00
2 – 3	5.00
3 – 4	3.75
4 – 5	2.50
5 – 6	1.50
6 – 7	1.25
7 – 8	1.25
8 – 9	1.00
9 – 10	1.00
10 & Over	0.75

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy Members:

- Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.

Disabled Members:

- Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020

Beneficiaries:

- Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020

Age	Rate (%)	
	Male	Female
20	0.04	0.01
25	0.02	0.01
30	0.03	0.01
35	0.04	0.02
40	0.06	0.03
45	0.09	0.05
50	0.13	0.08
55	0.19	0.11
60	0.28	0.17
65	0.41	0.27

Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Disability Incidence:

Age	Rate (%)
25	0.000
30	0.006
35	0.022
40	0.084
45	0.150
50	0.170
55	0.182
60	0.220
65	0.288

Disabilities rates are applicable after eight years of service.

Section 4: Actuarial Valuation Basis

Termination:

Less Than Five Years of Service

Years of Service	Rate (%)
Less than 1	6.75
1 – 2	4.25
2 – 3	4.00
3 – 4	3.50
4 – 5	2.50

Five or More Years of Service

Age	Rate (%)
25	2.34
30	2.24
35	2.14
40	2.04
45	1.85
50	1.60
55	1.35
60	1.10

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Retirement Rates:

Age	Rate (%)		
	1955/1980 Plan		
	Unreduced Pension ¹	Reduced Pension	2013 Tier
52	0.00	0.00	1.75
53	0.00	0.00	1.75
54	55.00	7.00	2.75
55	16.00	7.00	4.75
56	16.00	7.00	5.75
57	16.00	7.00	5.75
58	16.00	7.00	5.75
59	16.00	7.00	7.75
60	16.00	7.00	7.75
61	16.00	12.00	10.25
62	16.00	N/A ²	18.00
63	16.00	N/A	15.00
64	16.00	N/A	9.00
65	16.00	N/A	23.75
66	27.00	N/A	23.75
67	27.00	N/A	32.50
68	27.00	N/A	35.00
69	27.00	N/A	38.75
70 & Over	100.00	N/A	100.00

¹ For example, a 1955/1980 Plan member age 54 with 30 or more years of service would receive the full 2.60% per year of service accrual.

² For ages 62 and over, all 1955/1980 Plan members who are eligible for retirement receive the full 2.60% per year of service accrual.

Section 4: Actuarial Valuation Basis

Retirement Age for Inactive Vested Members:	59 1955/1980 Plan non-reciprocal members who are currently terminated with less than five years of service and are not vested are assumed to retire at age 65 if they decide to leave their contributions on deposit.										
Reciprocity:	15% of members who terminate with a vested benefit are assumed to enter a reciprocal system. For reciprocals, 3.75% compensation increases are assumed per annum.										
Future Benefit Accruals:	1.0 year of service per year of employment, plus 0.038 years of additional service to anticipate conversion of unused sick leave for each year of employment. As directed by EBMUDERS, this assumption has been applied to active members in the 1955/1980 Plan and the 2013 Tier.										
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.										
Percent Married/Domestic Partnership:	For all active and inactive members, 85% of male members and 60% of female members are assumed to be married or with domestic partner at pre-retirement death or retirement.										
Age and Gender of Spouse/Domestic Partner:	For all active and inactive members, male members are assumed to have a female spouse who is 2 years younger than the member and female members are assumed to have a male spouse who is 3 years older than the member. Since birth dates for non-spouse/non-domestic partner contingent beneficiaries are not provided by EBMUDERS, the age differences noted above also apply to assumed contingent beneficiaries of retired members who chose an optional form of payment at retirement.										
Form of Payment:	At retirement, members with spouses or domestic partners are assumed to elect the following form of payment (single members are assumed to elect the Unmodified option): <table border="1" data-bbox="760 950 1524 1182"> <thead> <tr> <th>Form of Payment</th> <th>Election Percentage</th> </tr> </thead> <tbody> <tr> <td>Unmodified or Option 1</td> <td>50%</td> </tr> <tr> <td>Option 2 (100% Continuance)</td> <td>10%</td> </tr> <tr> <td>Option 3 (50% Continuance)</td> <td>20%</td> </tr> <tr> <td>Option 4 (25% Continuance)</td> <td>20%</td> </tr> </tbody> </table>	Form of Payment	Election Percentage	Unmodified or Option 1	50%	Option 2 (100% Continuance)	10%	Option 3 (50% Continuance)	20%	Option 4 (25% Continuance)	20%
Form of Payment	Election Percentage										
Unmodified or Option 1	50%										
Option 2 (100% Continuance)	10%										
Option 3 (50% Continuance)	20%										
Option 4 (25% Continuance)	20%										
Actuarial Funding Policy:											
Actuarial Cost Method:	Entry Age Cost Method. Entry Age is the age at the member's hire date. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").										

Section 4: Actuarial Valuation Basis

Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market returns and the expected returns on the market value, and are recognized over a five-year period. The actuarial value of assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.
Valuation Value of Assets:	The proportion of the Actuarial Value of Assets allocated to the pension plan, based on the proportion of the MVA attributable to the pension plan.
Amortization Policy:	<p>Prior to July 1, 2011, the UAAL from plan changes, assumption changes, and experience gains/losses were amortized over separate decreasing 30-year periods.</p> <p>On or after July 1, 2011, any new UAAL resulting from plan changes are amortized over separate decreasing 15-year periods; assumption and method changes are amortized over separate decreasing 25-year periods (prior to July 1, 2021); and experience gains/losses are amortized over separate decreasing 20-year periods.</p> <p>On or after July 1, 2021, assumption and method changes are amortized over separate decreasing 20-year periods.</p>
<u>Other Actuarial Methods:</u>	
Employer Contributions:	<p>Employer contributions consist of two components:</p> <p><i>Normal Cost</i></p> <p>The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.</p> <p><i>Contribution to the Unfunded Actuarial Accrued Liability (UAAL)</i></p> <p>The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.00% (i.e., 2.50% inflation plus 0.50% across-the-board salary increase).</p> <p>The amortization policy is described above.</p> <p>The recommended employer contributions are provided in <i>Section 2, Subsection F</i>.</p>

Section 4: Actuarial Valuation Basis

Member Contributions:

1955/1980 Plan Members

Employee contribution rates for 1955/1980 Plan members are prescribed in the Ordinance. Effective April 17, 2006, the rate of member retirement contributions is 6.83%, and 6.74% of that rate is allocated to pay pension benefits. The rest, or 0.09%, is used to pay HIB benefits. The Board of Directors may adjust the employee rates solely pursuant to the terms of a negotiated collective bargaining agreement or memorandum of understanding with employee bargaining units.

Based on bargaining unit contract negotiations in 2013, members are contracted to pay the following employee rates (as a percentage of pay) beginning April 22, 2013:

Effective Date	Member Rate		
	(a) Total	(b) HIB Plan	(c) = (a) – (b) Pension Plan
April 17, 2006 ⁽¹⁾	6.83% ¹	0.09%	6.74%
April 22, 2013	7.33%	0.09%	7.24%
April 21, 2014	7.83%	0.09%	7.74%
April 20, 2015	8.33%	0.09%	8.24%
April 18, 2016	8.75%	0.09%	8.66%

¹ Pursuant to the Ordinance.

2013 Tier Members

Pursuant to Section 7522.30(a) of the California Government Code, 2013 Tier members are required to contribute at least 50% of the Normal Cost rate. In addition, Section 7522.30(c) requires that the initial employee contribution rate be rounded to the nearest quarter of 1 percent, unless a greater contribution rate has been agreed to pursuant to Section 7522.30(e). In preparing the initial Normal Cost rates, we assumed that exactly 50% of the Normal Cost would be paid by the new members and we took into account only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). In particular, the total Normal Cost rate of 17.56% was determined in the first CalPEPRA valuation, and this total rate has been used through the June 30, 2019 valuation to determine the 50% of the Normal Cost (rounded to one quarter of 1 percent) paid by the employees, or 8.75%.

Pursuant to Section 7522.30(d), each year we have compared the total Normal Cost rates between the current valuation and the initial CalPEPRA valuation since a rate increase (or decrease) of less than 1% of payroll would result in no change to the members' rate. Effective with the June 30, 2020 valuation, the total Normal Cost rate was determined to be 18.81%, which is a change of more than 1% of payroll compared to the rate of 17.56% that was determined in the first CalPEPRA valuation. This was the first time since the first CalPEPRA valuation that the change in the total Normal Cost rate has exceeded the 1% of payroll threshold.

Consequently, the member contribution rate for 2013 Tier members was increased to 9.41%, which is 50% of the total Normal Cost rate.

Section 4: Actuarial Valuation Basis

For the June 30, 2023 valuation, the 2013 Tier member contribution rate remains at 9.41% for the Pension Plan, because the total Normal Cost rate for this tier of 19.79% has remained within 1% of payroll of the new 18.81% threshold noted above.

As stated in our Actuarial Experience Study Report dated November 12, 2020, once the 1% threshold has been exceeded an adjustment to the members' rate is required as was the case in the June 30, 2020 valuation. Upon consulting with the Retirement System, the final member contribution rate determined in that valuation was calculated without the quarter of 1 percent rounding based on the Retirement System's direction that the rounding does not apply after the initial calculation. However, the rate paid by the employee was rounded to the nearest one/one hundredth of one percent (two decimals) consistent with the rounding methods used throughout the June 30, 2020 valuation report to ensure that the employees would pay at least 50% of the Normal Cost.

Accumulation for all members includes crediting of interest at the assumed investment earnings rate. The member contribution rates are provided in *Section 2, Subsection F*.

Internal Revenue Code Section 415:

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active members could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of \$160,000 indexed for inflation. That limit is \$265,000 for 2023. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for members in the non-CalPEPRA plan in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

Changes in Actuarial Assumptions: There have been no changes in actuarial assumptions since the last valuation.

Section 4: Actuarial Valuation Basis

Exhibit 2: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Census Date:	June 30
Membership Eligibility:	
<i>1955/1980 Plan</i>	All employees who first become members before January 1, 2013.
<i>2013 Tier</i>	All employees who first become members on or after January 1, 2013.
Final Compensation for Benefit Determination:	
<i>1955/1980 Plan</i>	Highest two consecutive years of compensation earnable (FAS2).
<i>2013 Tier</i>	Highest thirty-six consecutive months of pensionable compensation (FAS3).
Compensation Limit:	
<i>1955/1980 Plan</i>	IRC Section 401(a)(17) compensation limit applies to all employees who began membership in EBMUDERS on or after January 1, 1996.
<i>2013 Tier</i>	\$146,042 for 2023
Service:	Years of service (Yrs) are generally based on a member's employment during a period of time in which retirement contributions are deducted from their compensation.
Normal or Unreduced Retirement Eligibility:	
<i>Age and Service Requirement</i>	
<i>1955/1980 Plan</i>	Age 65; Age 62 with 5 years of service; Age 59 with 20 years of service; Age 54 with 30 years of service; Other combinations of age and service between ages 54 and 59.
<i>2013 Tier</i>	Age 67 with 5 years of service (for unreduced benefit).

Section 4: Actuarial Valuation Basis

Early Retirement Eligibility:

Age and Service Requirement

1955/1980 Plan Age 54 with 5 years of service.

2013 Tier Age 52 with 5 years of service.

Benefit Formula:

1955/1980 Plan:

1955 Formula 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service including all service extension credit.

1955/80 Formula 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service up to August 1, 1980 including all service extension credit, plus 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service after August 1, 1980. Applies to members who elected to convert to the 1980 Formula in 1980.

1955/90 Formula 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service up to January 1, 2000 including all service extension credit, plus 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service after January 1, 2000. Applies to members who elected to convert to the 1980 Formula in 1989.

1980 Formula 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service including all service extension credit. Applies to all members hired on or after January 1, 1980.

Service Extension Credit 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) for members with any service under the 1955 Formula or 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) for members with service only under the 1980 Formula times Final Compensation per year of Service Extension Credit. Service extension credit is the number of unused sick leave days credited to a member at the time of retirement converted on a 260-day basis. The number of such days is then doubled for the benefit calculation and for service retirements to meet the early retirement provision of the Ordinance.

Benefit Adjustments Reduced by 3% per year under the age of eligibility for an unreduced benefit, based on service at retirement, for retirements before age 63 (before age 62 commencing November 1, 2000). Effective July 1, 1999, Service Extension Credit is included in the years of service calculation of service for determining eligibility for unreduced retirement.

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)															
<i>2013 Tier:</i>															
	<table border="1"> <thead> <tr> <th>Retirement Age</th> <th>Benefit Formula</th> </tr> </thead> <tbody> <tr> <td>52</td> <td>1.00% x FAS3 x Yrs</td> </tr> <tr> <td>55</td> <td>1.30% x FAS3 x Yrs</td> </tr> <tr> <td>60</td> <td>1.80% x FAS3 x Yrs</td> </tr> <tr> <td>62</td> <td>2.00% x FAS3 x Yrs</td> </tr> <tr> <td>65</td> <td>2.30% x FAS3 x Yrs</td> </tr> <tr> <td>67 & Over</td> <td>2.50% x FAS3 x Yrs</td> </tr> </tbody> </table>	Retirement Age	Benefit Formula	52	1.00% x FAS3 x Yrs	55	1.30% x FAS3 x Yrs	60	1.80% x FAS3 x Yrs	62	2.00% x FAS3 x Yrs	65	2.30% x FAS3 x Yrs	67 & Over	2.50% x FAS3 x Yrs
Retirement Age	Benefit Formula														
52	1.00% x FAS3 x Yrs														
55	1.30% x FAS3 x Yrs														
60	1.80% x FAS3 x Yrs														
62	2.00% x FAS3 x Yrs														
65	2.30% x FAS3 x Yrs														
67 & Over	2.50% x FAS3 x Yrs														
Disability:															
<i>Eligibility</i>	Eight years of service (not available for Directors).														
<i>Benefit</i>	Greater of: 1.5% times Final Compensation per year of service. One-third of Final Compensation.														
Vesting:															
<i>Requirements</i>	Five years of service, must leave contributions on deposit, reciprocal service counts for vesting purposes.														
Pre-Retirement Death:															
<i>Eligibility</i>	Eligible for retirement.														
<i>Benefit</i>	50% of the unmodified service retirement benefit to eligible surviving spouse/surviving domestic partner plus the lump sum payment of accumulated retirement contributions OR														
<i>Eligibility</i>	None.														
<i>Benefit</i>	Lump sum payment of accumulated retirement contributions.														
Post-Retirement Death Benefit:	50% of the unmodified service retirement benefit to surviving spouse or registered domestic partner (tied to the implementation of the AB 205 legislation).														

Section 4: Actuarial Valuation Basis

Post-Retirement Cost of Living Benefits:

Payable July 1 of each year, the basic minimum COLA benefit is the lesser of 3% and the actual change in the cost of living index.

Excess of the actual change of cost of living index over 3% is accumulated in individual retiree COLA banks. Withdrawals from the bank are made in years when the index increases less than 3%.

Increases of up to 5% are granted in years when the Retirement Board determines that the System is more than 85% funded on a Projected Benefit Obligation basis. In those years when the System is more than 85% funded and the cost of living index exceeds 5%, any excess cost of living over 5% is accumulated in the COLA bank.

Effective October 1, 2000, in those years when the system is more than 85% funded on a Projected Benefit Obligation basis and the cost of living is less than 4%, withdrawals from the bank are made to allow cost of living increases up to 4%.

Member Contributions:

1955/1980 Plan

Effective April 17, 2006, retirement system members contribute at a rate of 6.83% of pay, as prescribed in the Ordinance. Based on bargaining unit contract negotiations in 2013, members are contracted to pay the following employee rates (as a percentage of pay) beginning April 22, 2013:

Effective Date	Member Rate		
	(a) Total	(b) HIB Plan	(c) = (a) – (b) Pension Plan
April 17, 2006 ⁽¹⁾	6.83% ⁽¹⁾	0.09%	6.74%
April 22, 2013	7.33%	0.09%	7.24%
April 21, 2014	7.83%	0.09%	7.74%
April 20, 2015	8.33%	0.09%	8.24%
April 18, 2016	8.75%	0.09%	8.66%

⁽¹⁾ Pursuant to the Ordinance.

2013 Tier

Initial member contribution rate is set at 50% of the total 2013 Tier Normal Cost rate, rounded to the nearest quarter of 1%. Once established, the member contribution rate will be adjusted annually to reflect the change in the 2013 Tier Normal Cost rate, but only if the change is more than 1% of payroll.

Effective with the June 30, 2020 valuation, the member contribution rate for the Pension Plan is 9.41% of pay.

Changes in Plan Provisions:

There have been no changes in plan provisions since the last valuation.

Note: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so they can both be sure the proper provisions are valued.

5793104v4/10419.001

East Bay Municipal Utility District Employees' Retirement System

Health Insurance Benefit Valuation

Review of Contribution Rates and Funding Status
as of June 30, 2023



This report has been prepared at the request of the Retirement Board to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Retirement Board and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes

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Segal



January 5, 2024

Ms. Sophia Skoda
Director of Finance
East Bay Municipal Utility District
375 Eleventh Street
Oakland, California 94607-4240

Dear Sophia:

We are pleased to submit our Health Insurance Benefit (HIB) Valuation as of June 30, 2023 for the prefunded \$450 (\$550 for a retiree with a spouse or EBMUD domestic partner) monthly health insurance subsidy. The Governmental Accounting Standards Board (GASB) requires employers, such as EBMUD, that pool health insurance premium rates for actives and retirees under age 65 to also calculate the liability associated with such pooled premiums for retirees under age 65 on an accrual basis. While that liability referred to as the implicit subsidy has to be disclosed, it is not required to be prefunded. The contribution rate developed in this report only includes the prefunding requirement for the \$450/\$550 benefit. The obligation required for financial disclosure purposes under GASB Statements No. 74 (plan reporting) and 75 (employer reporting) will be provided in separate reports.

This valuation is based on financial statements and census data furnished by East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA and Mehdi Riazi, FSA, MAAA, FCA, EA. The health care trend and other related medical assumptions have been reviewed by Mary Kirby, FSA, MAAA, FCA. The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,

Segal

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

Mehdi Riazi, FSA, MAAA, FCA, EA
Vice President and Actuary

Mary Kirby, FSA, MAAA, FCA
Senior Vice President and Actuary

TTT/jl

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Section 1: Actuarial Valuation Summary

Contribution recommendations and funding status

- The funded ratio measured on a valuation value of assets basis increased from 44.0% at June 30, 2022 to 47.7% at June 30, 2023. The funded ratio if measured on a market value of assets basis increased from 40.9% to 46.5%. The Unfunded Actuarial Accrued Liability (UAAL) decreased from \$73.29 million as of June 30, 2022 to \$68.86 million as of June 30, 2023 on valuation value of asset basis. The increase to the funded ratio and the reduction to the UAAL were both consistent with the expected changes based on the plan's funding policy, as contributions were continued to be made to pay down the UAAL. Overall, the results of the June 30, 2023 valuation were very much in-line with the June 30, 2022 valuation. As shown on page 15, the new UAAL amortization base related to the June 30, 2023 valuation was relatively small.
- The recommended aggregate employer contribution rate is 4.35% based on the June 30, 2023 valuation. The new rate is 0.28% lower than the 4.63% aggregate rate developed in the June 30, 2022 valuation. Note, the 4.63% aggregate/blended rate has been restated based on projected June 30, 2023 payrolls, which is why it is slightly lower than the 4.64% aggregate rate shown in the June 30, 2022 valuation. As shown in Section 2, Subsection E, 0.24% of the 0.28% decrease to the employer contribution rate was attributable to having a larger projected payroll than expected to amortize the prior years' UAAL. We have maintained the allocation of 0.09% of the member contribution to the HIB plan used in last year's valuation.
- As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of June 30, 2023 is \$59.2 million for the assets for the pension and HIB plans (note that in the previous valuation, this amount was a deferred loss of \$157.2 million). This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This implies that earning the assumed rate of investment return of 6.75% per year (net of expenses) on a market value basis will produce investment losses on the actuarial value of assets after June 30, 2023.

The deferred losses of \$59.2 million represent 2.6% of the market value of assets as of June 30, 2023. Unless offset by future investment gains or other favorable experience, the recognition of the \$59.2 million market loss is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

- If the HIB plan portion of the deferred losses were recognized immediately and entirely in the valuation value of assets, the funded percentage would decrease from 47.7% to 46.5%.
- If the HIB plan portion of the deferred losses were recognized immediately and entirely in the valuation value of assets, the aggregate recommended employer rate would increase from 4.35% to about 4.39% of payroll.

Section 1: Actuarial Valuation Summary

- This valuation report reflects one minor actuarial methodology refinement of applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate. The refinement resulted in a 0.03% of payroll net decrease in the total normal cost rate.
- This report assumes the HIB subsidy limit will remain at the current levels of \$450/\$550. Future increases in the HIB subsidy will increase the cost of the plan as a percent of pay.

Section 1: Actuarial Valuation Summary

- The following tables summarizes the contribution rate recommendations for the employer and the employee:

Employer	June 30, 2023		June 30, 2022	
	Total Rate ¹	Estimated Annual Amount ²	Total Rate ¹	Estimated Annual Amount ²
1955/1980 Plan	4.43%	\$5,733,000	4.75%	\$6,151,000
2013 Tier	4.27%	<u>5,670,000</u>	4.52%	<u>6,002,000</u>
Combined	4.35%	\$11,403,000	4.63%	\$12,153,000
Average Member	Total Rate ¹	Estimated Annual Amount ²	Total Rate ¹	Estimated Annual Amount ²
1955/1980 Plan	0.09%	\$117,000	0.09%	\$117,000
2013 Tier	0.09%	<u>120,000</u>	0.09%	<u>120,000</u>
Combined	0.09%	\$237,000	0.09%	\$237,000

The following table compares the valuation value of assets and liabilities for the Health Insurance Benefit as of June 30, 2023 and June 30, 2022:

	June 30, 2023	June 30, 2022
1. Valuation Value of Assets	\$62,769,259	\$57,661,197
2. Actuarial Accrued Liabilities:		
Current Recipients	97,330,438	96,305,707
Future Recipients	<u>34,297,017</u>	<u>34,645,603</u>
Total	\$131,627,455	\$130,951,310
3. Liabilities minus Valuation Value of Assets (2) – (1)	\$68,858,196	\$73,290,113
4. Funding Ratio (1) ÷ (2)	47.69%	44.03%

¹ Payable at the **end** of each pay period.

² Based on June 30, 2023 projected annual payroll of:

1955/1980 Plan	\$129,488,164
2013 Tier	<u>132,784,436</u>
Combined	\$262,272,600

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	This valuation is based on the market value of assets as of the valuation date, as provided by System. The System uses an “Actuarial Value of Assets” that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to health care plan trend and enrollment. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

A. Introduction

Pursuant to Section 36 of the Ordinance, the Retirement Board is authorized to administer a Health Insurance Benefit (HIB) through an IRC Section 401(h) account. The HIB may be used for the payment of sickness, accident, hospitalization, and medical expenses as permitted under the IRC and as authorized by the Retirement Board. In particular, the Retirement Board has authorized the use of the HIB towards the payment of medical insurance premiums.

This report does not provide information required for disclosure under GASB Statements 74 and 75. Such information will be provided in separate reports.

In this valuation, we have used a layered amortization approach to determine the contribution rate to fund the Unfunded Actuarial Accrued Liability (UAAL).

Plan changes, assumption changes and experience gains/losses prior to July 1, 2011 are amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, through June 30, 2021, plan changes are amortized over separate decreasing 15-year periods; assumption changes from the experience study are amortized over separate decreasing 25-year periods; and experience gains/losses (including year-to-year health assumption changes) are amortized over separate decreasing 20-year periods. On or after July 1, 2021, assumption changes from the experience study or interim review of the economic assumptions are amortized over 20 years. The above payments would continue to be expressed as a level percent of a growing payroll base.

The cost of the HIB is funded by both employer and employee contributions. The contribution rates for the employer are calculated to provide for the ongoing normal cost, plus any amounts necessary to fund any shortfall between the valuation value of assets and the actuarial accrued liabilities.

A summary of the Health Insurance Benefit provisions is displayed in Section 4, Exhibit 2.

Section 2: Actuarial Valuation Results

B. Determination of actuarial value of assets

To minimize volatility in the calculation of the Actuarially Determined Contribution, the Board has approved an asset valuation method that gradually adjusts to market value over a five-year period. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended June 30, 2023 (for pension and HIB plans)

1. Market value of assets:					
(a) Pension plan					\$2,194,142,000
(b) HIB plan					61,165,000
(c) Total					\$2,255,307,000
2. Calculation of unrecognized return:	Actual Return	Expected Return	Investment Gain / (Loss)	Percent Deferred	Deferred Return
(a) Year ended June 30, 2019	\$91,744,000	\$122,306,135	(30,562,135)	0%	\$0
(b) Year ended June 30, 2020	39,376,000	127,791,930	(88,415,930)	20%	(17,683,186)
(c) Year ended June 30, 2021	491,625,000	129,314,710	362,310,290	40%	144,924,116
(d) Year ended June 30, 2022	(253,930,000)	162,455,125	(416,385,125)	60%	(249,831,075)
(e) Year ended June 30, 2023	217,559,000	138,262,646	79,296,354	80%	63,437,083
(f) Total unrecognized return ¹					(\$59,153,062)
3. Preliminary actuarial value: (1c) - (2f)					\$2,314,460,062
4. Adjustment to be within 30% corridor of market value					0
5. Final actuarial value of assets for pension and HIB plans: (3) + (4)					\$2,314,460,062
6. Actuarial value as a percentage of market value: (5) ÷ (1c)					102.6%
7. Valuation value of HIB plan assets: (1b) ÷ (1c) x (5)					\$62,769,259

¹ Deferred return as of June 30, 2023 that will be recognized in each of the next four years (amounts may not total exactly due to rounding):

(a) Amount recognized on June 30, 2024	(\$12,638,882)
(b) Amount recognized on June 30, 2025	5,044,304
(c) Amount recognized on June 30, 2026	(67,417,754)
(d) Amount recognized on June 30, 2027	<u>15,859,271</u>
(e) Total unrecognized return as of June 30, 2023	(\$59,153,062)

Section 2: Actuarial Valuation Results

C. Funding ratio

The funding of the Health Insurance Benefit comes from the following sources:

1. The valuation value of HIB assets, which equals \$62,769,259 as of June 30, 2023;
2. Contributions from the employer; and
3. Contributions from the employees.

The following table provides the funding status of the Health Insurance Benefit as of June 30, 2023 and June 30, 2022:

	June 30, 2023	June 30, 2022
1. Valuation Value of Assets	\$62,769,259	\$57,661,197
2. Actuarial Accrued Liabilities:		
Current Recipients	97,330,438	96,305,707
Future Recipients	<u>34,297,017</u>	<u>34,645,603</u>
Total	\$131,627,455	\$130,951,310
3. Liabilities minus Valuation Value of Assets (2) – (1)	\$68,858,196	\$73,290,113
4. Funding Ratio (1) ÷ (2)	47.69%	44.03%

The contribution requirements are determined based on the Entry Age Funding Method. The excess of the actuarial accrued liability over assets (Item 3 in the above table) is amortized as a level percentage of payroll for current active members. The employer contribution rates are derived on the following page.

Section 2: Actuarial Valuation Results

D. Recommended contribution

The amount of annual contribution required to fund the HIB is comprised of a net employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the contribution rate of 4.35% of payroll for this year's valuation compared to 4.63% of payroll recommended for last year's valuation. The 4.63% aggregate rate from June 30, 2022 has been restated based on projected June 30, 2023 payrolls, which is why it is slightly lower than the 4.64% aggregate rate shown in the June 30, 2022 valuation.

Recommended Contribution (% of Payroll) Payable at End of Pay Period

	June 30, 2023			June 30, 2022		
	1955/1980 Plan	2013 Tier	Combined ¹	1955/1980 Plan	2013 Tier	Combined ¹
1. Total Normal Cost	0.95%	0.79%	0.87%	1.08%	0.85%	0.96%
2. Expected employee contributions	(0.09)%	(0.09)%	(0.09)%	(0.09)%	(0.09)%	(0.09)%
3. Employer normal cost: (1) - (2)	0.86%	0.70%	0.78%	0.99%	0.76%	0.87%
4. Unfunded actuarial accrued liability	3.57%	3.57%	3.57%	3.76%	3.76%	3.76%
5 Total recommended contribution, end of each pay period	4.43%	4.27%	4.35%	4.75%	4.52%	4.63%

¹ Based on June 30, 2023 projected annual payroll of:

1955/1980 Plan	\$129,488,164
2013 Tier	132,784,436
Combined	\$262,272,600

Section 2: Actuarial Valuation Results

E. Reconciliation of recommended employer contribution

The chart below details the changes in the recommended employer contribution from the prior valuation to the current year's valuation. The 4.63% aggregate rate from June 30, 2022 has been restated based on projected June 30, 2023 payrolls, which is why it is slightly lower than the 4.64% aggregate rate shown in the June 30, 2022 valuation.

	Contribution Rate
Average Recommended Employer Contribution Rate as of June 30, 2022	4.63%
Effect of actuarial experience during fiscal 2022/2023	
1. Effect of investment loss (after smoothing)	0.02%
2. Effect of higher than expected growth in total payroll to amortize the prior years' UAAL	(0.24)%
3. Effect of one-year lag in implementing contribution rates	(0.01)%
4. Effect of demographic experience, including change to average HIB subsidy paid and HIB subsidy trend assumptions	<u>(0.05)%</u>
Total change	-0.28%
Average Recommended Employer Contribution Rate as of June 30, 2023	4.35%

Section 2: Actuarial Valuation Results

F. Table of amortization bases

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment ¹
Initial HIB Base	6/30/1997	30	\$15,829,000	\$8,558,405	4	\$2,255,702
Combined Base	6/30/1998	30	(195,000)	(124,318)	5	(26,673)
Combined Base	6/30/1999	30	6,467,754	4,668,079	6	849,188
Combined Base	6/30/2000	30	5,543,694	4,404,492	7	698,682
Combined Base	6/30/2001	30	794,097	680,433	8	96,072
Combined Base	6/30/2002	30	18,413,242	16,752,297	9	2,138,478
Combined Base	6/30/2003	30	6,628,441	6,324,850	10	739,009
Combined Base	6/30/2004	30	1,942,176	1,972,772	11	213,091
Combined Base	6/30/2005	30	8,019,739	8,011,102	12	806,539
Combined Base	6/30/2006	30	(1,769,952)	(1,847,976)	13	(174,605)
Experience Loss	6/30/2007	30	2,878,105	3,056,269	14	272,590
Combined Base	6/30/2008	30	12,125,015	13,030,212	15	1,102,564
Combined Base	6/30/2009	30	(1,240,538)	(1,343,337)	16	(108,308)
Combined Base	6/30/2010	30	463,026	503,321	17	38,815
Combined Base	6/30/2011	30	(60,151)	(65,464)	18	(4,845)
Experience Gain	6/30/2012	20	(1,251,821)	(977,859)	9	(124,826)
Assumption Changes	6/30/2012	25	3,374,832	3,261,120	14	290,861
Experience Gain	6/30/2013	20	(1,155,658)	(949,836)	10	(110,981)
Experience Loss	6/30/2014	20	21,287	18,228	11	1,969
Assumption Changes	6/30/2014	25	2,555,790	2,534,242	16	204,326
Experience Gain	6/30/2015	20	(810,969)	(719,196)	12	(72,407)
Assumption Changes	6/30/2016	25	2,459,846	2,476,685	18	183,299
Experience Gain	6/30/2016	20	(1,569,600)	(1,431,880)	13	(135,290)
Assumption Changes	6/30/2017	25	(403,768)	(408,083)	19	(29,072)
Experience Gain	6/30/2017	20	(664,072)	(620,104)	14	(55,307)

¹ Beginning of year payment, reflecting level percentage of payroll.

Section 2: Actuarial Valuation Results

F. Table of amortization bases (continued)

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment ¹
Experience Gain	6/30/2018	20	\$(2,295,237)	(2,182,889)	15	(184,707)
Assumption Changes	6/30/2018	25	2,931,560	2,966,251	20	203,951
Experience Gain	6/30/2019	20	(504,689)	(487,900)	16	(39,337)
Assumption Changes	6/30/2020	25	1,899,682	1,922,318	22	123,981
Experience Gain	6/30/2020	20	(542,065)	(530,646)	17	(40,922)
Experience Gain	6/30/2021	20	(6,818,716)	(6,736,642)	18	(498,578)
Assumption Changes	6/30/2022	20	3,202,074	3,183,188	19	226,770
Experience Loss	6/30/2022	20	2,976,293	2,958,739	19	210,780
Experience Loss	6/30/2023	20	1,323	1,323	20	91
Total				\$68,858,196		\$9,050,900

Note: The equivalent single amortization period is about 9 years.

¹ Beginning of year payment, reflecting level percentage of payroll.

Section 3: Supplemental Information

Exhibit A: Summary of participant data

	June 30, 2023	June 30, 2022
Retired Members		
Number	1,653	1,609
Average age	71.1	70.8
Surviving Spouses		
Number	217	197
Average age	78.9	78.1
Eligible for Deferred Benefit		
Number ¹	381	360
Average age	48.4	48.3
Active Participants		
Number	1,955	1,895
Average age	47.1	47.2
Average years of service	11.0	11.4
Average expected retirement age	62.4	62.3

¹ Includes inactive members due a refund of Pension Plan member contributions.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial assumptions and methods

Rationale for Assumptions and Methods:

The information and analysis used in selecting each assumption and method that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2020 Actuarial Experience Study report dated November 12, 2020, the Actuarial Funding Policy review letter dated September 14, 2022, the June 30, 2022 Economic Assumptions Review report dated November 8, 2022, and the Retiree Health assumptions letter dated November 10, 2023. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both tiers.

Economic Assumptions

Net Investment Return: 6.75%, net of investment and administrative expenses.

Inflation: 2.50%

Across the Board Salary Increases: 0.50%

Payroll Growth: Inflation of 2.50% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.

Salary Increases: The annual rate of compensation Increase includes inflation at 2.50%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotional increases:

Years of Service	Rate (%)
Less than 1	6.25
1 – 2	6.00
2 – 3	5.00
3 – 4	3.75
4 – 5	2.50
5 – 6	1.50
6 – 7	1.25
7 – 8	1.25
8 – 9	1.00
9 – 10	1.00
10 & Over	0.75

Section 4: Actuarial Valuation Basis

Demographic Assumptions

Mortality:

Post-Retirement Healthy Members:

- Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.

Post-Retirement Disabled Members:

- Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.

Pre-Retirement:

- Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020.

Beneficiaries:

- Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Disability Incidence:

Age	Rate (%)
25	0.000
30	0.006
35	0.022
40	0.084
45	0.150
50	0.170
55	0.182
60	0.220
65	0.288

Note: Disability rates are applicable after eight years of service.

Section 4: Actuarial Valuation Basis

Termination:

Less Than Five Years of Service

Years of Service	Rate (%)
Less than 1	6.75
1 – 2	4.25
2 – 3	4.00
3 – 4	3.50
4 – 5	2.50

Five or More Years of Service

Years of Service	Rate (%)
25	2.34
30	2.24
35	2.14
40	2.04
45	1.85
50	1.60
55	1.35
60	1.10

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Retirement:

Age	Rate (%)		
	1955/1980 Plan		
	Unreduced Pension ¹	Reduced Pension	2013 Tier
52	0.00	0.00	1.75
53	0.00	0.00	1.75
54	55.00	7.00	2.75
55	16.00	7.00	4.75
56	16.00	7.00	5.75
57	16.00	7.00	5.75
58	16.00	7.00	5.75
59	16.00	7.00	7.75
60	16.00	7.00	7.75
61	16.00	12.00	10.25
62	16.00	N/A ²	18.00
63	16.00	N/A	15.00
64	16.00	N/A	9.00
65	16.00	N/A	23.75
66	27.00	N/A	23.75
67	27.00	N/A	32.50
68	27.00	N/A	35.00
69	27.00	N/A	38.75
70 & Over	100.00	N/A	100.00

¹ For example, a 1955/1980 Plan member age 54 with 30 or more years of service would be eligible for an unreduced pension benefit.

² For ages 62 and over, all 1955/1980 Plan members who are eligible for retirement are eligible for an unreduced pension benefit.

Section 4: Actuarial Valuation Basis

Unknown Data for Participants:	Same as those exhibited by members are similar known characteristics. If not specified, members are assumed to be male.
Retirement Age for Inactive Vested Participants:	59
Percent Married/Domestic Partnership:	For all active and inactive vested participants: 70% of male members and 35% of female members are assumed to elect spouse/domestic partner HIB coverage at retirement. For retired participants: Actual data included in census. Based on past practice this is not necessarily the same as the percent married/domestic partnership assumption used in the pension valuation. Some of those members may not elect HIB spouse/domestic partner coverage upon retirement due to the additional cost to the member.
Age of Spouse/Domestic Partner:	For all active and inactive vested participants, male participants are assumed to have a female spouse who is 3 years younger than the participant and female participants are assumed to have a male spouse who is 2 years older than the participant.
Future Benefit Accruals:	1.0 year of service per year. We have not applied the 0.038 years of additional service for each year of employment, applied in the pension valuation to anticipate conversion of unused sick leave, based on our understanding of the HIB plan provisions.
<u>Actuarial Funding Policy</u>	
Actuarial Cost Method:	Entry Age Cost Method. Entry Age is the age at the member's hire date. Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation. The Normal Cost is calculated on an individual basis where the Entry Age Normal Cost is calculated as the sum of the individual Normal Costs.
Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market returns and the expected returns on the market value, and are recognized over a five-year period. The actuarial value of assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.
Valuation Value of Assets:	The proportion of the Actuarial Value of Assets allocated to the HIB plan, based on the proportion of the MVA attributable to the HIB plan.
Amortization Method:	Level percent of payroll
Remaining Amortization Period:	Plan changes, assumption changes, and experience gains/losses prior to July 1, 2011 are amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, through June 30, 2021, plan changes are amortized over separate decreasing 15-year periods; assumption changes are amortized over separate decreasing 25-year periods; and experience gains/losses and retiree health assumption changes are amortized over separate decreasing 20-year periods. On or after July 1, 2021, assumption changes from the experience study or interim review of the economic assumptions are amortized over 20 years.

Section 4: Actuarial Valuation Basis

Retiree Health Assumptions

Participation:

95% of future eligible retirees are assumed to enroll in the HIB plan.
All current pensioners and beneficiaries with a retiree health insurance cash subsidy were valued.
For deferred vested members, we assume an election equal to 50% of the future retiree election percent.

Average HIB Subsidy:

The enrollment percent of 70% is used to estimate the proportion of future retirees expected to participate in the EBMUD medical insurance plans (Kaiser, Blue Cross, Sutter Health Plus<65, and UHC Medicare Advantage PPO 65+). The difference between the 95% of all future retirees expected to be provided with an HIB subsidy and 70% (i.e. 25%) is what we used to anticipate future retirees who receive reimbursement for medical expenses through the HIB plan without being enrolled in an EBMUD medical insurance plan. The HIB subsidy may be used to defray any other allowed health benefits (e.g., Medicare Part B premiums, dental costs) in addition to medical premiums. For current retirees, we have used the HIB on record. For the expected 95% future retirees who received an HIB, we have assumed, based on the average HIB on record for current retirees at 100% vesting level, that:

- Retirees at 100% vesting level under age 65 with single HIB coverage will receive an average \$444 monthly benefit as of July 1, 2023,
- Retirees at 100% vesting level under age 65 with spouse HIB coverage will receive an average \$518 monthly benefit as of July 1, 2023,
- Retirees at 100% vesting level age 65 and over with single HIB coverage will receive an average \$437 monthly benefit as of July 1, 2023, and
- Retirees at 100% vesting level age 65 and over with spouse HIB coverage will receive an average \$539 monthly benefit as of July 1, 2023.

The maximum (100% vesting level) monthly HIB subsidy is \$450 for a retiree with single coverage and \$550 for a retiree with spouse/domestic partner coverage

Projected HIB Subsidy Increase:

We have projected the HIB medical benefit to increase with medical trend until it reaches the limits described in the Summary of Plan Provisions. The benefit limits are projected to remain unchanged at the current levels of \$450/\$550.

Section 4: Actuarial Valuation Basis

Health Care Cost Trend Rates:

Trend is to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium.
First Fiscal Year (July 1, 2023 through June 30, 2024)

Plan	Rate (%)				
	Anthem Blue Cross PPO, Under Age 65	Sutter Health Plus HMO, Under Age 65	Kaiser HMO, Under Age 65	Kaiser Senior Advantage	UHC Medicare Advantage PPO
Trend to be applied to 2023-2024 Fiscal Year premium	9.62	6.10	14.15	9.27	4.23

The fiscal year trend rates are based on the following calendar year trend rates:

Fiscal Year	Approximate Trend Rate (%)		Calendar Year	Trend Rate Applied to Calculate Following Year Premium (%)	
	Non-Medicare	Medicare		Non-Medicare	Medicare
2024-2025	7.375	6.375	2024	7.50	6.50
2025-2026	7.125	6.125	2025	7.25	6.25
2026-2027	6.875	5.875	2026	7.00	6.00
2027-2028	6.625	5.625	2027	6.75	5.75
2028-2029	6.375	5.375	2028	6.50	5.50
2029-2030	6.125	5.125	2029	6.25	5.25
2030-2031	5.875	4.875	2030	6.00	5.00
2031-2032	5.625	4.625	2031	5.75	4.75
2032-2033	5.375	4.500	2032	5.50	4.50
2033-2034	5.125	4.500	2033	5.25	4.50
2034-2035	4.875	4.500	2034	5.00	4.50
2035-2036	4.625	4.500	2035	4.75	4.50
2036 and later	4.500	4.500	2036	4.50	4.50

Section 4: Actuarial Valuation Basis

Medical Carrier Election	Non-Medicare Medical Carrier	Election (%)
		Kaiser HMO
	Anthem Blue Cross PPO	25
	Sutter Health Plus HMO	5
	Medicare Medical Carrier	Election (%)
	Kaiser Senior Advantage HMO (High Option)	67
	UHC Medicare Advantage PPO	33

Assumption Changes Since Prior Valuation:	<p>The following assumptions were changed since the prior valuation:</p> <ul style="list-style-type: none"> • The average HIB subsidy for future retirees was updated. • The future trend for projecting medical costs below the subsidy limit were updated. <p>Per the plan's funding policy, the impact of the year-to-year retiree healthcare assumption changes (such as this year's assumption changes) are amortized as part of the annual experience gain/loss.</p>
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Section 4: Actuarial Valuation Basis

Exhibit 2: Summary of plan

This exhibit summarizes the major benefit provisions as included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions

Normal or Unreduced Retirement Eligibility:	
<i>1955/1980 Plan</i>	Age 65; Age 62 with 5 years of service; Age 59 with 20 years of service; Age 54 with 30 years of service; Other combinations of age and service between ages 54 and 59.
<i>2013 Tier</i>	Age 67 with 5 years of service (for unreduced benefit)
Early Retirement Eligibility:	
<i>1955/1980 Plan</i>	Age 54 with 5 years of service.
<i>2013 Tier</i>	Age 52 with 5 years of service.
Covered Members:	All members with at least 5 years of service.
Member Contribution Rate:	0.09%
Employer Contribution Rate:	100% of total cost net of the 0.09% rate paid by the employee.

Section 4: Actuarial Valuation Basis

Benefit Formula:

For members entering

For members entering the System prior to July 1, 1996, a monthly allowance of up to \$450 (\$550 for married retirees and retirees with EBMUD domestic partners) is paid to retirees with at least five years of full-time service to reimburse member-paid medical expenses.

For members entering the System after June 30, 1996, the members shall receive the full monthly allowance multiplied by the applicable percentage below based on years of full-time service.

Effective January 1, 1999, retired members who had separated from the District prior to their retirement and who had at least five years of service also become eligible for the post-employment healthcare benefits based on the same vesting schedule.

Years of Full-time Service	Percent of HIB
Less than 5	0%
5-9	25%
10-14	50%
15-19	75%
20 or more	100%

An eligible surviving spouse/domestic partner may receive a Health Insurance Benefit of up to \$450 per month.

Changes in Plan Provisions:

None since the prior valuation.

5800954v1/10419.001

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Barry N. Gardin, Internal Auditor Supervisor *BNG*

SUBJECT: Revisions to District Policies

SUMMARY

To ensure District operations and business practices remain consistent with Board objectives and priorities, the District reviews policies every two years to determine whether any organizational, regulatory, or other changes have occurred which would necessitate their modification. If policy modifications are warranted, they are forwarded to the Board for consideration and approval. Prior to being forwarded to the Board all proposed Policy modifications are reviewed for input from the Senior Management Team, leadership of the Unions, and the General Counsel’s Office.

This memo summarizes modifications to three policies for Board consideration and approval. These policies will be presented at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

Policies Recommended for Revision

Staff determined the policies listed below warrant modification. The proposed changes include rescinding one policy, including public comment as part of public informational meetings in lieu of advisory elections, eliminating inspection as one of the facility tour permit criteria, and minor word changes for clarification.

1. Policy 3.01 – Annexations

This policy was modified to include discussion of Board actions in consideration of expansion outside of the Contra Costa County Urban Limit Line and remove references to Policy 3.08 (Annexation Outside of the Contra Costa County Urban Limit Line) which has been rescinded.

2. Policy 3.08 – Advisory Election for Annexations Outside the Contra Costa County Urban Limit

This policy was recommended for rescission by the Planning Committee on February 13, 2024. The policy is no longer viable due to cost implications, particularly in the context of advisory elections. Also, the District has alternative options available when considering annexations outside of the Ultimate Service Boundary.

3. Policy 7.04 – Access to District Property for Tours

This policy was modified to eliminate inspection as one of the facility tour permit criteria and to make minor word changes for clarification.

UNION NOTIFICATION

Employee Relations reviewed all the policy changes to determine the necessity for union review and, as deemed necessary, reviewed the changes that affect wages, hours, and working conditions with the represented groups.

FISCAL IMPACT

These policy changes have no identified fiscal impact.

NEXT STEPS

These policies will be brought to the Board for consideration at its February 27, 2024 meeting.

CCC:BNG

Attachments: Policies 3.01, 3.08, and 7.04



Policy 3.01R

EFFECTIVE [27 FEB 24](#)
~~22 AUG 23~~

SUPERSEDES [22 AUG 23](#)
~~24 NOV 15~~

ANNEXATIONS

IT IS THE POLICY OF THE EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Consider annexing territory, when requested by owners of the property or public agencies having jurisdiction.

Conditions

Annexations are subject to the following conditions:

- The proposed annexation shall ~~either~~ be within the EBMUD Ultimate Service Boundary (USB) [unless otherwise stated in this policy](#) ~~or comply with Policy 3.08 – Advisory Elections for Annexations Outside the Contra Costa County Urban Limit Line.~~
- Generally, there should be an immediate need for water service on part or all of the territory being annexed.
- The territory proposed for annexation should include any parcels required to make a logical boundary.
- The annexation should facilitate the operation of the utility and be of advantage to the community.
- The annexation should be economically sound and water service technically feasible.
- Territory within the boundaries of the East Bay Watershed Master Plan, but lying outside the boundary of the Briones Hills Agricultural Preservation Area (BHAPA) must:
 - Have adequate facilities for removal of sewage from the watershed; and
 - Be under agreement or permanent deed restriction with the District to protect the quality of source water under the influence of the territory.
- Territory shall be outside the boundary of the BHAPA as adopted by Contra Costa County and signatory cities, except where:
 - The territory is owned by the District or another public agency and will remain in public ownership; and
 - The District obtains agreements or permanent deed restrictions from the public agency owner that provide for protection of the quality of source water under the influence of the territory.

District policy shall be to express opposition to annexation of privately held parcels within the BHAPA boundary.

- If the proposed annexation extends beyond the Contractor Service Area of the District's Central Valley Project (CVP) Repayment Contract, the District shall request the United States Bureau of Reclamation (USBR) to include the proposed annexation in the Contractor Service Area in compliance with Article 34 of the CVP Repayment Contract. The District shall also request the responsible Local Agency Formation Commission to condition water service to the annexed

territory until receipt of USBR's formal approval of the inclusion. The project proponent must agree to cooperate with the District by including the territory in the District's Contractor's Service Area under its CVP Repayment Contract. The project proponent must also agree to add the territory to their permitted place of use and compensate the District for any costs incurred.

Territory Outside of Ultimate Service Boundary

The District shall express opposition to all proposed annexations outside of the USB unless:

- a) The requested annexation is a small boundary adjustment found by the District to be in its best interests based on the following conditions:
 - (1) The property and dwelling units are the smaller part of a larger development project located primarily within the USB;
 - (2) The development project is desired and approved by the city or county land use planning agency with jurisdiction, and the land use planning and environmental documentation recognizes the District as the logical provider of water service;
 - (3) Annexation of the property to the District represents the most practical and feasible method of obtaining water service;
 - (4) The cumulative number of dwelling units outside the USB added as a result of such small boundary adjustments shall not exceed 100 in any two-year period;
 - (5) The project proponent has agreed to cooperate with the District in adding the territory to the District's permitted place of use and Contractor's Service Area under its CVP Repayment Contract and compensate the District for costs incurred; and
 - (6) District Policy 3.05 – Considerations for Extension of Water Beyond the Ultimate Service Boundary, and Policy 9.03 – Water Supply Availability and Deficiency, are satisfied with regard to the effects of extension of water service beyond the USB; or
- b) The requested annexation is to mitigate health risks, as established by the appropriate agency, associated with existing water supplies; the project proponent has agreed to cooperate with the District in adding the territory to the District's permitted place of use and Contractor's Service Area under its CVP Repayment Contract and to compensate the District for costs incurred.
- c) [If the requested annexation includes territory that is beyond the Contra Costa County Urban Limit Line in existence in 2000 and EBMUD is identified by the local planning agency as part of the preparation of environmental documentation as the preferred provider to deliver potable service to the territory, prior to the close of the comment period on any draft environmental documents, the Board of Directors shall place a discussion of the project on the agenda at a regularly scheduled public meeting. Following the discussion, if the Board of Directors determines that the proposed annexation is consistent with this Policy 3.01 and Policy 3.05, the Board of Directors shall direct staff to submit comments with any conditions or relevant information that the Board of Directors deems appropriate. If the Board of Directors determines that the annexation is not consistent with this Policy 3.01 and Policy 3.05, it will oppose the annexation and shall direct staff to file comments setting forth the opposition and, as appropriate, adopt a resolution setting forth the Board of Director's opposition.](#)

Authority

Resolution No. 20996, June 8, 1962
Amended by Board Motion No. 91-012, February 14, 1991
Amended by Resolution No. 33116-98, August 11, 1998
Amended by Resolution No. 33365-03, July 8, 2003
Amended by Resolution No. 33634-07, October 9, 2007
Amended by Resolution No. 33732-09, October 27, 2009
Amended by Resolution No. 34059-15, November 24, 2015
Amended by Resolution No. 35361-23, August 22, 2023
[Amended by Resolution No. XXXXX-24, February 27, 2024](#)

References

Policy 3.05 – Considerations for Extension of Water Beyond the Ultimate Service Boundary
~~Policy 3.08 – Advisory Election for Annexations Outside the Contra Costa County Urban Limit Line~~
Policy 9.03 – Water Supply Availability and Deficiency



Policy 3.01

EFFECTIVE 27 FEB 24

SUPERSEDES 22 AUG 23

ANNEXATIONS

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Conditions

Annexations are subject to the following conditions:

- The proposed annexation shall be within the EBMUD Ultimate Service Boundary (USB) unless otherwise stated in this policy.
- Generally, there should be an immediate need for water service on part or all of the territory being annexed.
- The territory proposed for annexation should include any parcels required to make a logical boundary.
- The annexation should facilitate the operation of the utility and be of advantage to the community.
- The annexation should be economically sound and water service technically feasible.
- Territory within the boundaries of the East Bay Watershed Master Plan, but lying outside the boundary of the Briones Hills Agricultural Preservation Area (BHAPA) must:
 - Have adequate facilities for removal of sewage from the watershed; and
 - Be under agreement or permanent deed restriction with the District to protect the quality of source water under the influence of the territory.
- Territory shall be outside the boundary of the BHAPA as adopted by Contra Costa County and signatory cities, except where:
 - The territory is owned by the District or another public agency and will remain in public ownership; and
 - The District obtains agreements or permanent deed restrictions from the public agency owner that provide for protection of the quality of source water under the influence of the territory.

District policy shall be to express opposition to annexation of privately held parcels within the BHAPA boundary.

- If the proposed annexation extends beyond the Contractor Service Area of the District's Central Valley Project (CVP) Repayment Contract, the District shall request the United States Bureau of Reclamation (USBR) to include the proposed annexation in the Contractor Service Area in compliance with Article 34 of the CVP Repayment Contract. The District shall also request the responsible Local Agency Formation Commission to condition water service to the annexed

territory until receipt of USBR's formal approval of the inclusion. The project proponent must agree to cooperate with the District by including the territory in the District's Contractor's Service Area under its CVP Repayment Contract. The project proponent must also agree to add the territory to their permitted place of use and compensate the District for any costs incurred.

**Territory Outside
of Ultimate
Service
Boundary**

The District shall express opposition to all proposed annexations outside of the USB unless:

- a) The requested annexation is a small boundary adjustment found by the District to be in its best interests based on the following conditions:
 - (1) The property and dwelling units are the smaller part of a larger development project located primarily within the USB;
 - (2) The development project is desired and approved by the city or county land use planning agency with jurisdiction, and the land use planning and environmental documentation recognizes the District as the logical provider of water service;
 - (3) Annexation of the property to the District represents the most practical and feasible method of obtaining water service;
 - (4) The cumulative number of dwelling units outside the USB added as a result of such small boundary adjustments shall not exceed 100 in any two-year period;
 - (5) The project proponent has agreed to cooperate with the District in adding the territory to the District's permitted place of use and Contractor's Service Area under its CVP Repayment Contract and compensate the District for costs incurred; and
 - (6) District Policy 3.05 – Considerations for Extension of Water Beyond the Ultimate Service Boundary, and Policy 9.03 – Water Supply Availability and Deficiency, are satisfied with regard to the effects of extension of water service beyond the USB; or
- b) The requested annexation is to mitigate health risks, as established by the appropriate agency, associated with existing water supplies; the project proponent has agreed to cooperate with the District in adding the territory to the District's permitted place of use and Contractor's Service Area under its CVP Repayment Contract and to compensate the District for costs incurred.
- c) If the requested annexation includes territory that is beyond the Contra Costa County Urban Limit Line in existence in 2000 and EBMUD is identified by the local planning agency as part of the preparation of environmental documentation as the preferred provider to deliver potable service to the territory, prior to the close of the comment period on any draft environmental documents, the Board of Directors shall place a discussion of the project on the agenda at a regularly scheduled public meeting. Following the discussion, if the Board of Directors determines that the proposed annexation is consistent with this Policy 3.01 and Policy 3.05, the Board of Directors shall direct staff to submit comments with any conditions or relevant information that the Board of Directors deems appropriate. If the Board of Directors determines that the annexation is not consistent with this Policy 3.01 and Policy 3.05, it will oppose the annexation and shall direct staff to file comments setting forth the opposition and, as appropriate, adopt a resolution setting forth the Board of Director's opposition.

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Amended by Resolution No. 34059-15, November 24, 2015
Amended by Resolution No. 35361-23, August 22, 2023
Amended by Resolution No. XXXXX-24, February 27, 2024

References

Policy 3.05 – Considerations for Extension of Water Beyond the Ultimate Service Boundary
Policy 9.03 – Water Supply Availability and Deficiency



Policy 3.08R

ADVISORY ELECTION FOR ANNEXATIONS OUTSIDE THE CONTRA COSTA COUNTY URBAN LIMIT LINE

EFFECTIVE 28 NOV 23

SUPERSEDES 14 SEP 10

IT IS THE POLICY OF THE EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Call an advisory election if EBMUD is designated as the preferred water service provider by a local planning agency in its environmental documentation when the proposed development is located outside the Urban Limit Line adopted by Contra Costa County in 2000.

Purpose The purpose of the election shall be to submit to the voters within the EBMUD service area the question of whether territory outside said Urban Limit Line should be annexed to EBMUD.

- Events Triggering an Advisory Election**
- EBMUD is identified by a local planning agency in its environmental documentation as the preferred provider to deliver potable water service to a residential development of 200 or more dwelling units located in territory beyond the Contra Costa County Urban Limit Line. In such cases, the matter shall be placed on the agenda for consideration by the Board of Directors at a regularly scheduled public meeting. If the Board of Directors determines not to oppose annexation of such territory to EBMUD, EBMUD shall call an advisory election on the question of whether such territory should be annexed to EBMUD. The advisory election shall occur prior to the time the Contra Costa County Local Agency Formation Commission is scheduled to consider annexation of the territory to EBMUD and, when possible, shall be consolidated with a general election.
 - If a local agency designates EBMUD as the preferred provider for water service to a residential development in territory outside the Contra Costa County Urban Limit Line that is less than 200 dwelling units and is not covered by the provisions of Policy 3.01– Annexations, then EBMUD shall oppose the annexation and the Board of Directors shall determine, at a regularly scheduled public meeting, whether to call an advisory election on the question of whether such territory should be annexed to EBMUD.
 - This policy shall be applied consistent with and in furtherance of the provisions of Policy 3.01 – Annexations.

Authority Resolution No. 33347-03, January 28, 2003
Amended by Resolution No. 33564-06, November 14, 2006
Amended by Resolution No. 33687-08, October 14, 2008
Amended by Resolution No. 33780-10, September 14, 2010
Amended by Resolution No. 35373-23, November 28, 2023
[Rescinded by Resolution No. XXXXX-24, February 27, 2024](#)

- References**
- Policy 3.01 Annexations
 - Policy 3.05 Considerations for Extension of Water Service Beyond the Ultimate Service Boundary
 - Policy 3.07 Responsibility to Serve Water Customers during Water Shortage



Policy 3.08

ADVISORY ELECTION FOR ANNEXATIONS OUTSIDE THE CONTRA COSTA COUNTY URBAN LIMIT LINE

EFFECTIVE 28 NOV 23

SUPERSEDES 14 SEP 10

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Purpose	The purpose of the election shall be to submit to the voters within the EBMUD service area the question of whether territory outside said Urban Limit Line should be annexed to EBMUD.
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|---|---|
| Events Triggering an Advisory Election | <ul style="list-style-type: none"> • EBMUD is identified by a local planning agency in its environmental documentation as the preferred provider to deliver potable water service to a residential development of 200 or more dwelling units located in territory beyond the Contra Costa County Urban Limit Line. In such cases, the matter shall be placed on the agenda for consideration by the Board of Directors at a regularly scheduled public meeting. If the Board of Directors determines not to oppose annexation of such territory to EBMUD, EBMUD shall call an advisory election on the question of whether such territory should be annexed to EBMUD. The advisory election shall occur prior to the time the Contra Costa County Local Agency Formation Commission is scheduled to consider annexation of the territory to EBMUD and, when possible, shall be consolidated with a general election. • If a local agency designates EBMUD as the preferred provider for water service to a residential development in territory outside the Contra Costa County Urban Limit Line that is less than 200 dwelling units and is not covered by the provisions of Policy 3.01– Annexations, then EBMUD shall oppose the annexation and the Board of Directors shall determine, at a regularly scheduled public meeting, whether to call an advisory election on the question of whether such territory should be annexed to EBMUD. • This policy shall be applied consistent with and in furtherance of the provisions of Policy 3.01 – Annexations. |
|---|---|

Authority	Resolution No. 33347-03, January 28, 2003 Amended by Resolution No. 33564-06, November 14, 2006 Amended by Resolution No. 33687-08, October 14, 2008 Amended by Resolution No. 33780-10, September 14, 2010 Amended by Resolution No. 35373-23, November 28, 2023 Rescinded by Resolution No. XXXXX-24, February 27, 2024
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References	Policy 3.01 Annexations Policy 3.05 Considerations for Extension of Water Service Beyond the Ultimate Service Boundary Policy 3.07 Responsibility to Serve Water Customers during Water Shortage
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Policy 7.04R

EFFECTIVE [27 FEB 24](#)
~~26 SEP 17~~

SUPERSEDES [26 SEP 17](#)
~~27 SEP 14~~

ACCESS TO DISTRICT PROPERTY FOR TOURS

IT IS THE POLICY OF EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Invite and encourage interested groups or individuals to visit and ~~inspect~~ [tour](#) District property and facilities that are open to the public.

Permit interested groups or individuals to ~~inspect or~~ [tour](#) District property and facilities that are not usually open to the public under proper supervision and where such ~~inspection or~~ [tour](#) is not detrimental to ~~individual~~ safety or the operation or security of District infrastructure and property, and is consistent with the District's mission statement.

Prohibit unauthorized access to District infrastructure, property, and watershed lands in order to provide a secure and safe workplace; maintain a reliable water supply and wastewater services; prevent contamination of water ~~sources~~ [supply](#); minimize fire hazard; prevent or mitigate potential damage or loss of assets; provide for public safety, and ensure compliance with federal, state, and local regulations.

Tours [Where and when allowed](#), ~~G~~ groups may schedule tours of pre-identified District facilities during ~~staffed~~ [normal working](#) hours. [In addition to District-sponsored tours open to the public](#), ~~t~~our groups may include, but are not limited to, ~~employees, non-employees~~, public officials, [and employees or representatives of](#) other utilities, law enforcement, fire fighters, emergency medical services, ~~school educational organizations~~ [representatives](#), and associations. Advance reservations are required to minimize disruption of District operations. The District reserves the right to limit, refuse, or cancel tours due to security conditions or other operational ~~needs~~ [considerations](#).

Authority Resolution No. 16,392, March 12, 1954
As amended by Resolution No. 33365-03, July 8, 2003
As amended by Resolution No. 33494-05, September 27, 2005
As amended by Resolution No. 33634-07, October 9, 2007
As amended by Resolution No. 33732-09, October 27, 2009
As amended by Resolution No. 33841-11, September 27, 2011
As amended by Resolution No. 35061-17, September 26, 2017
[As amended by Resolution No. XXXXX-24, February 27, 2024](#)

References Policy 6.04 – Ethics Policy of the EBMUD Board of Directors
Policy 7.06 – Pardee Conference and Lodging Facility Use
Policy 7.11 – Use of District Bay Area Facilities
Policy 7.13 – Security
Procedure 703 – District Facilities: Use by Employee and Outside Groups
Procedure 716 – Pardee Facilities
Procedure 720 – Security: Facilities Photo/Video Images
Procedure 727 – Tours of District Bay Area Facilities

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Barry N. Gardin, Internal Audit Supervisor *BNG*

SUBJECT: Semi-Annual Internal Audit Report

SUMMARY

This report is being provided to the Board in accordance with the standard of independence for the District Internal Audit function as prescribed in Policy 4.24 – Internal Audit. This policy stipulates the Internal Auditor provide a report on the results of audits, investigations, and any other audit-related activities to the Board of Directors on a semi-annual basis or as warranted when/if issues or concerns arise that warrant immediate Board consideration or attention. This report provides a status of each of the projects included in the Fiscal Year 2024 (FY 2024) Internal Audit Plan.

In addition to providing the status of internal audit activities, this mid-year update affords the Board an opportunity to ensure the audit efforts remain aligned with the Board's goals, objectives, and priorities as well as an opportunity to reprioritize audit resources by modifying planned activities, as warranted, to address areas that are of most concern. As prescribed in the policy, any findings identified during audits and resulting recommendations are reported to the General Manager. This report will be presented at the February 27, 2024 Finance/Administration Committee meeting.

FY 2024 INTERNAL AUDIT PLAN

During this reporting period no material finding, control weaknesses, risks, or other significant issues requiring Board action or immediate attention have been noted. In accordance with Policy 4.24, any issues requiring immediate attention will be brought, without delay, directly to the Board.

Purchasing Compliance and Control

This review assesses compliance with purchasing provisions outlined in the Municipal Utility District Act (MUD Act) as well as the associated guidelines prescribed in the District's policies and procedures. This will include (but not be limited to) ensuring competitive bidding is utilized when required, sole source selections are justified and appropriately documented, purchases are

appropriate and consistent with District business needs, and proper authorizations and reviews are being made. This review is in progress and is expected to be reported at the end of February 2024.

Facility Access and Control

To review controls and restrictions in place to access District facilities including accountability for physical keys and access badges, off-hour access, maintenance of access logs, maintenance of alarm systems, and compliance with notification procedures accessing unstaffed facilities. This review is in progress and is expected to be reported in March 2024.

Equipment Acquisition and Utilization

To evaluate the acquisition and use of District heavy equipment to confirm the equipment acquisitions are appropriate and determine if equipment use is maximized. This review is expected to be reported in April 2024.

Purchase Card Activity and Use

To assess Purchase Card procedures to confirm that sufficient controls are in place and complied with to ensure appropriate use consistent with the program guidelines. This will include ensuring items purchased are appropriate and consistent with District activities, support documentation is provided, management review of Purchase Card transactions is being conducted, and suspected improper and/or inappropriate use is investigated and addressed. This review is expected to be reported in May 2024.

Capital Budget Expenditure and Accountability

Review of capital budget awards appropriations to determine the extent to which appropriations have been adjusted from the original Board authorization and whether projects for which funds have been transferred from have had a delay and/or commensurate reduction in scope to warrant the appropriation reduction. Also review specific expenditures to ensure they are consistent with Award objectives and confirm that appropriation transfers are properly documented and authorized. This review is expected to be reported in June 2024.

Staffing Plan and Utilization

This review is intended to determine whether anticipated conditions for the staffing plan have been realized and that staff is currently being utilized in accordance with the rationale provided by management. This review is expected to be reported in July 2024.

Information Technology (IT) Control Implementation

Ongoing implementation of IT controls to secure the District's business system will be periodically confirmed and reported.

OTHER AREAS OF CONSIDERATION

In accordance with Policy 4.24, issues that are deemed to be a significant exposure and/or risk to the District are immediately discussed at the appropriate management level, up to and including the General Manager. During this review period, two concerns related to the District being inaccurately invoiced for services were brought to the attention of Internal Audit. Due to the nature of the concerns (involving ongoing expenditures) and their apparent credibility, immediate efforts were made to review and assess the underlying conditions (i.e., internal controls), determine whether improper charges were assessed and if so, the amount. One of the concerns raised also included an allegation of impropriety that is also being evaluated.

The results of one of these reviews, which confirmed improper charges were assessed, has been reported to the General Manager. Follow-up efforts are being made to recover improper charges and ensure improper charges are no longer paid. Efforts to follow-up on the second concern, which included an allegation of impropriety, are ongoing and will be reported to the General Manager when completed. No other issues or concerns related to malfeasance, financial or regulatory irregularities/improprieties, or other potentially significant issues were identified or brought to the attention of Internal Audit during the period.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: February 22, 2024

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Michael T. Tognolini, Director of Water and Natural Resources *MTT*

SUBJECT: Camanche Mobilehome Park Rent

SUMMARY

The District owns and operates three mobilehome parks with a total of 195 sites in the Camanche Recreation area. Mobilehome park space rents are established during the budget process by the District's Board of Directors and listed in the Recreation Use Fees for Camanche Recreation Area. These rates are adjusted annually based on the U.S. Department of Housing and Urban Development (HUD) Fair Market Rents (FMR). The 2024 HUD FMR for both counties was significantly higher than previous years, resulting in a 12.5 percent increase in mobilehome space rent, effective February 1, 2024. This item will be discussed at the February 27, 2024 Finance/Administration Committee meeting.

DISCUSSION

The District's mobilehome parks were constructed in 1972 by the Camanche Regional Park Board (CRPB), a Joint Power Authority authorized by the District between Amador, Calaveras and San Joaquin counties. The intent of the CRPB was to develop the recreational infrastructure at Camanche Reservoir, retain concessionaires, and oversee operations of the Camanche recreation areas. The District allowed mobilehomes in the recreation area, but stated the CRPB must not allow them to be used as primary residences. The CRPB did not enforce this rule and provided little oversight of the recreation area and many of the mobilehomes became permanent residences. Following an inspection of the recreation areas by the Federal Energy Regulatory Commission (FERC) in 1986 that revealed numerous health and safety violations, the District dissolved the CRPB and assumed responsibility for management of recreation and mobilehomes at Camanche.

On February 1, 2024, the Camanche Regional Park Advisory Board (CRPAB) held a regular meeting at the Mokelumne Watershed Headquarters. Eight mobilehome park (MHP) residents attended the meeting and expressed concerns about the rent increase for 2024. Following public comments, the CRPAB recommended the District continue to utilize the HUD FMR to determine annual changes in mobilehome site rent but with a cap of 5 percent and a floor of 2 percent, effective as soon as practicable, but no later than July 1, 2024.

Space rents for Camanche MHP are approved by the EBMUD Board each spring during the biennial and mid-cycle budget process. Mobilehome space rent changes annually based on the change in the HUD FMR which is published by October 1 of each year for Amador and Calaveras counties. The average change in the HUD FMR is applied to the previous year’s rent to determine rent for the next calendar year. This formula was established by the District with input from MHP residents and the CRPAB, in 2010 during the development of the Mobilehome Park Management Plan and is part of the District’s Rates and Fees Schedule. In addition to use of the mobilehome space, monthly rent paid by mobilehome residents includes potable water service, wastewater service, and garbage service. Residents are also given discounts on boat rentals, marina slip rentals, houseboat mooring anchors, dry storage, and select retail purchases at the marina store.

The average annual rent increase over the previous five years (2019-2023) was 3.8 percent. The concessionaire for Camanche Recreation Area, also responsible for management of all three mobilehome parks, raised concerns over the increase and proposed that the 2024 rent increase be capped at 5 percent. Any change in space rent would require approval by the EBMUD Board. While rent control laws for MHP do exist, none apply to “owner occupied” parks like those operated by the District. An “owner occupied” park allows residents to rent the space that a mobilehome is on, but the mobilehome is the property of the resident. All MHP residents were mailed a required 90-day notice of rent increase on October 20, 2023, and space rents were increased by 12.5 percent effective February 1, 2024.

The concessionaire responsible for operating Camanche Recreation Area manages the District’s mobilehome parks and collects monthly rent from the tenants. The District collects franchise fees and maintenance and capital improvement fund (MCIF) fees on all concession revenue, including MHP rent. These fees range from 0-8 percent and 12-24 percent, respectively. The table below shows the fees collected from MHP revenue from 2019 to November 2023.

	2019	2020	2021	2022	2023 (Jan-Nov)
Annual MHP Revenue to Concessionaire	\$1,094,500	\$1,144,285	\$1,281,161	\$1,276,292	\$1,214,053
Franchise Fee Payment 8%	\$87,560	\$91,542	\$102,492	\$102,103	\$97,124
Maintenance Fee 20%	\$218,900	\$228,857	\$256,232	\$255,258	\$242,810

Franchise fees are paid directly to the District, and MCIF fees collected are managed jointly by the concessionaire and the District. MCIF funds are used to maintain and improve recreation amenities in the mobilehome park, but not water or wastewater infrastructure. Water and wastewater systems serving the mobilehome park are in need of significant improvement, and a study is underway to evaluate these systems. The Board may need to consider additional strategies to cover the cost of infrastructure improvements in the future.

Rent for mobilehome sites at Camanche are less than most other parks in the region. Comparing rents is challenging since some parks do not include utilities in rent, and lease agreements differ

between different parks. The table below compares the Camanche MHP rents to other mobilehome parks in Amador and Calaveras counties. Note that Ione MHP rent does not include utilities.

County	Park Name	Rent	Utilities Included*
Calaveras/Amador	Camanche MHP	\$671 to \$810	Yes
Amador	Rollingwood Estates	\$680 to \$1,000	No
Amador	Ione MHP	\$520 to \$530	No
Calaveras	Murphys Diggins	\$1,045	Yes

*Utilities include water, sewer, and garbage service. Electricity and gas are paid by resident.

NEXT STEPS

Staff recommends that the District consider the CRPAB's recommendation as part of the District's regular review process for 2025 recreation fees. The EBMUD Board would review and approve any changes to the mobilehome rent formula along with other proposed changes to recreation fees that would become effective January 1, 2025. For calendar year 2024, the rent increase of 12.5 percent was implemented on February 1, 2024. Staff recommends the Board consider a rent cap for future years when it next reviews these use fees and the need for other capital improvements to the Camanche MHP in spring 2024.

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