Segal Consulting

East Bay Municipal Utility District Employees' Retirement System – Health Insurance Benefit Valuation

Review of Contribution Rates and Funding Status as of June 30, 2019

Segal Consulting

180 Howard Street Suite 1100 San Francisco, CA 94105-6147
T 415.263.8200 www.segalco.com

January 8, 2020

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, 2019 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, Enrolled Actuary and Thomas Bergman, ASA, MAAA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Paul Sadro, ASA, MAAA. The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,

Segal Consulting, a Member of the Segal Group, Inc.

By: Andy Yeung — Thomas Bergman

Andy Yeung, ASA, MAAA, FCA, EA	*Thomas Bergman, ASA, MAAA, EA*
Vice President and Actuary	*Retiree Health Actuary*

VZP/mv

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPORTING EXHIBITS

CONTRIBUTION RECOMMENDATIONS AND FUNDING STATUS

- The employer contribution rates that Segal recommended for the 2019/2020 Fiscal Year ("recommended rates") were provided in the June 30, 2018 valuation report. However, the Board decided to carry over unchanged for the 2019/2020 Fiscal Year ("adopted rates") the higher total (Retirement Plan plus HIB Plan) employer contribution rates previously adopted by the Board for the 2018/2019 Fiscal Year, as determined in the June 30, 2017 valuation. That action was based on the concern that the reduction in the employer contribution rates as developed in the June 30, 2018 valuation may be temporary as a review of the economic actuarial assumptions was scheduled as part of the June 30, 2019 valuation and the employer contribution rates might increase if the Board were to adopt more conservative assumptions as a result of that review (similar to actions taken at other retirement systems in California). Therefore, maintaining the 2018/2019 employer contribution rates for 2019/2020 would have the indirect impact of stabilizing the contribution rates should an increase in the contribution rates materialize for 2020/2021.

  While the Board decided to carry over the higher total employer contribution rates as determined in the June 30, 2017 valuation, both the employer and the member Normal Cost rates for the 2019/2020 Fiscal Year were nonetheless those calculated in the June 30, 2018 valuation in order to reflect the latest demographic information available for determining those rates. After adjusting for the Normal Cost rates, there was a higher amount left toward paying off the UAAL relative to the UAAL rates originally calculated in our June 30, 2018 HIB Plan valuation. A reconciliation of the change in the employer's rate is provided in Chart 3. We have maintained the allocation of 0.09% of the member contribution to the HIB plan used in last year's valuation.

- The Unfunded Actuarial Accrued Liability (UAAL) component of the District's contribution rate recommended in the June 30, 2019 valuation has been calculated with the layered amortization approach as explained in Section 2A. In the aggregate, the total payment from all the UAAL layers was the same as amortizing the entire UAAL over a period of about 13 years.

- The funded ratio measured on a valuation value of assets basis increased from 29.7% at June 30, 2018 to 33.0% at June 30, 2019. The funded ratio if measured on a market value of assets basis increased from 33.0% to 33.3%. The UAAL decreased from $85.09 million as of June 30, 2018 to $82.26 million as of June 30, 2019, primarily as a result of contributions made towards paying off the UAAL and other reductions in UAAL due to factors including the reduction in spouse coverage assumption and subsidies under the HIB limit increasing less than projected in the prior valuation.

- As indicated in Section 2, Subsection B (see Chart 1) of this report, the total unrecognized investment gain as of June 30, 2019 is $15.4 million for the assets for the pension and HIB plans (note that in the previous valuation, this amount was a deferred gain of $38.9 million). This investment gain 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

7.00% per year (net of expenses) on a market value basis will produce investment gains on the actuarial value of assets after June 30, 2019.

The deferred gains of $15.4 million represent 0.8% of the market value of assets as of June 30, 2019. Unless offset by future investment losses or other unfavorable experience, the recognition of the $15.4 million market gain 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 gains were recognized immediately and entirely in the valuation value of assets, the funded percentage would increase from 33.0% to 33.3%.
- If the HIB plan portion of the deferred gains were recognized immediately and entirely in the valuation value of assets, the aggregate recommended employer rate would decrease from 4.80% to about 4.79% of payroll.

➤ 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.

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

	June 30, 2019		June 30, 2018			
			Adopted		Recommended	
Employer	Total Rate[1]	Estimated Annual Amount[2]	Total Rate[1]	Estimated Annual Amount[2]	Total Rate[1]	Estimated Annual Amount[2]
1955/1980 Plan	4.88%	$7,094,000	5.32%	$7,734,000	5.03%	$7,312,000
2013 Tier	4.62%	3,092,000	4.92%	3,295,000	4.73%	3,168,000
Combined	4.80%	$10,186,000	5.19%	$11,029,000	4.94%	$10,480,000
Average Member	Total Rate[1]	Estimated Annual Amount[2]	Total Rate[1]	Estimated Annual Amount[2]	Total Rate[1]	Estimated Annual Amount[2]
1955/1980 Plan	0.09%	$131,000	0.09%	$131,000	0.09%	$131,000
2013 Tier	0.09%	60,000	0.09%	60,000	0.09%	60,000
Combined	0.09%	$191,000	0.09%	$191,000	0.09%	$191,000

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

(2) *Based on June 30, 2019 projected payroll of $212,350,940, $145,378,597 for 1955/1980 Plan members and $66,972,343 for 2013 Tier members.*

- The following table compares the valuation value of assets and liabilities for the Health Insurance Benefit as of June 30, 2019 and June 30, 2018:

	June 30, 2019	June 30, 2018
1. Valuation Value of Assets	$40,497,822	$35,946,843
2. Actuarial Accrued Liabilities:		
Current Recipients	88,259,175	85,730,029
Future Recipients	34,494,193	35,306,855
Total	$122,753,368	$121,036,884
3. Liabilities minus Valuation Value of Assets (2) – (1)	$82,255,546	$85,090,041
4. Funding Ratio (1) ÷ (2)	32.99%	29.70%

Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting ("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 the 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, termination, and retirement of each participant for each year. 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.

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 to assist the sponsors of the Fund in preparing items related to the HIB plan in their financial reports. 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. Future contribution requirements may differ from those determined in the valuation because of:
  - Differences between actual experience and anticipated experience;
  - Changes in actuarial assumptions or methods;
  - Changes in statutory provisions; and
  - Differences between the contribution rates determined by the valuation and those adopted by the Board.
- If the System 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.

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

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, plan changes are amortized over separate decreasing 15-year periods; assumption changes are amortized over separate decreasing 25-year periods; and experience gains/losses (including health assumption changes) are amortized over separate decreasing 20-year periods. 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 3, Exhibit III.

B. FINANCIAL INFORMATION

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.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 1

Determination of Actuarial Value of Assets for Year Ended June 30, 2019 (for pension and HIB plans)

	Actual Market Return (net)	Expected Market Return (net)	Investment Gain / (Loss)	Deferred Factor	Deferred Return
1. Market value of assets:					
(a) Pension plan					$1,792,124,000
(b) HIB plan					40,841,000
(c) Total					$1,832,965,000
2. Calculation of deferred return:					
(a) Year ended June 30, 2015	$58,937,000	$101,068,500	$(42,131,500)	0%	$0
(b) Year ended June 30, 2016	12,894,000	105,466,650	(92,572,650)	20%	(18,514,530)
(c) Year ended June 30, 2017	200,254,000	102,606,314	97,647,686	40%	39,059,074
(d) Year ended June 30, 2018	148,798,000	116,619,368	32,178,632	60%	19,307,178
(e) Year ended June 30, 2019	91,744,000	122,306,135	(30,562,135)	80%	(24,449,708)
(f) Total unrecognized return[1]					$15,402,014
3. Preliminary actuarial value: (1c) - (2f)					$1,817,562,986
4. Adjustment to be within 30% corridor of market value					0
5. Final actuarial value of assets for pension and HIB plans: (3) + (4)					$1,817,562,986
6. Actuarial value as a percentage of market value: (5) ÷ (1c)					99.2%
7. Valuation value of HIB plan assets: (1b) ÷ (1c) x (5)					$40,497,822

[1] *Deferred return as of June 30, 2019 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, 2020	*$1,338,306*
(b) Amount recognized on June 30, 2021	*19,852,836*
(c) Amount recognized on June 30, 2022	*323,299*
(d) Amount recognized on June 30, 2023	*(6,112,427)*
(e) Total unrecognized return as of June 30, 2019	*$15,402,014*

C. FUNDING RATIO

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

1. The valuation value of HIB assets, which equals $40,497,822 as of June 30, 2019;
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, 2019 and June 30, 2018:

	June 30, 2019	June 30, 2018
1. Valuation Value of Assets	$40,497,822	$35,946,843
2. Actuarial Accrued Liabilities:		
Current Recipients	88,259,175	85,730,029
Future Recipients	34,494,193	35,306,855
Total	$122,753,368	$121,036,884
3. Liabilities minus Valuation Value of Assets (2) – (1)	$82,255,546	$85,090,041
4. Funding Ratio (1) ÷ (2)	32.99%	29.70%

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.

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 4.80% of payroll for this year's valuation compared to 4.94% of payroll recommended for last year's valuation.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 2

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

	June 30, 2019			June 30, 2018 (Recommended Rates)		
	1955/1980 Plan	2013 Tier	Combined[1]	1955/1980 Plan	2013 Tier	Combined[1]
1. Total Normal Cost	1.09%	0.83%	1.01%	1.14%	0.84%	1.05%
2. Expected employee contributions	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%
3. Employer normal cost: (1) + (2)	1.00%	0.74%	0.92%	1.05%	0.75%	0.96%
4. Unfunded/(overfunded) actuarial accrued liability	3.88%	3.88%	3.88%	3.98%	3.98%	3.98%
5. Total recommended contribution, end of each pay period	4.88%	4.62%	4.80%	5.03%	4.73%	4.94%

	June 30, 2018 (Adopted Rates)[2]		
	1955/1980 Plan	2013 Tier	Combined[1]
1. Total Normal Cost	1.14%	0.84%	1.05%
2. Expected employee contributions	-0.09%	-0.09%	-0.09%
3. Employer normal cost: (1) + (2)	1.05%	0.75%	0.96%
4. Unfunded/(overfunded) actuarial accrued liability	4.27%	4.17%	4.23%
5. Total recommended contribution, end of each pay period	5.32%	4.92%	5.19%

(1) *Based on June 30, 2019 projected payroll of $212,350,940 , $145,378,597 for 1955/1980 Plan members and $66,972,343 for 2013 Tier members.*

(2) *The adopted UAAL rates for the June 30, 2018 valuation for the 1955/1980 Plan and the 2013 Tier are not the same since the Board decided to carry over unchanged the higher employer contribution rates from the June 30, 2017 valuations for the June 30, 2018 valuations. For the HIB Plan, the employer normal cost rates for the 2018 valuation remain the same as those rates actuarially determined for that valuation in order to reflect the most recent demographic information, and the UAAL rates represent the difference between the total rates and the normal cost rates, which produces said variance in the UAAL rates.*

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.

CHART 3	Contribution Rate
Adopted Contribution Rate as of June 30, 2018	**5.19%**
Recommended Contribution Rate as of June 30, 2018	**4.94%**
Effect of actuarial experience during fiscal 2018/2019	
1. Effect of investment loss (after smoothing)	0.00%
2. Effect of updating HIB spouse/domestic partner coverage assumption	(0.01)%
3. Effect of higher than expected growth in total payroll	(0.06)%
4. Effect of one-year lag in implementing contribution rates	(0.02)%
5. Effect of miscellaneous changes in demographic composition	(0.05)%
Subtotal	(0.14)%
Recommended Contribution Rate as of June 30, 2019	**4.80%**

F. TABLE OF AMORTIZATION BASES

CHART 4
Amortization Bases

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment*
Initial HIB Base	6/30/1997	30	$15,829,000	$14,093,377	8	$1,989,313
Combined Base	6/30/1998	30	(195,000)	(184,324)	9	(23,522)
Combined Base	6/30/1999	30	6,467,754	6,411,313	10	748,843
Combined Base	6/30/2000	30	5,543,694	5,706,031	11	616,098
Combined Base	6/30/2001	30	794,097	841,789	12	84,713
Combined Base	6/30/2002	30	18,413,242	19,965,737	13	1,885,567
Combined Base	6/30/2003	30	6,628,441	7,309,224	14	651,584
Combined Base	6/30/2004	30	1,942,176	2,221,524	15	187,875
Combined Base	6/30/2005	30	8,019,739	8,824,478	16	711,074
Combined Base	6/30/2006	30	(1,769,952)	(1,997,294)	17	(153,932)
Experience Loss	6/30/2007	30	2,878,105	3,249,059	18	240,308
Combined Base	6/30/2008	30	12,125,015	13,652,647	19	971,957
Combined Base	6/30/2009	30	(1,240,538)	(1,389,565)	20	(95,475)
Combined Base	6/30/2010	30	463,026	514,729	21	34,214
Combined Base	6/30/2011	30	(60,151)	(66,267)	22	(4,271)
Experience Gain	6/30/2012	20	(1,251,821)	(1,165,434)	13	(110,064)
Assumption Changes	6/30/2012	25	3,374,832	3,466,833	18	256,415
Experience Gain	6/30/2013	20	(1,155,658)	(1,097,664)	14	(97,852)
Experience Loss	6/30/2014	20	21,287	20,526	15	1,736
Assumption Changes	6/30/2014	25	2,555,790	2,621,452	20	180,116
Experience Gain	6/30/2015	20	(810,969)	(792,215)	16	(63,836)
Assumption Changes	6/30/2016	25	2,459,846	2,507,065	22	161,570
Experience Gain	6/30/2016	20	(1,569,600)	(1,547,578)	17	(119,273)
Assumption Changes	6/30/2017	25	(403,768)	(409,304)	23	(25,625)
Experience Gain	6/30/2017	20	(664,072)	(659,221)	18	(48,758)
Experience Gain	6/30/2018	20	(2,295,237)	(2,287,162)	19	(162,827)
Assumption Changes	6/30/2018	25	2,931,560	2,950,479	24	179,761
Experience Gain	6/30/2019	20	(504,689)	(504,689)	20	(34,676)
Total				$82,255,546		$7,961,033

* *Beginning of year payment, reflecting level percentage of payroll*

Note: The equivalent single amortization period is about 13 years.

This exhibit summarizes the participant data used for the current and prior valuations.

EXHIBIT I

Summary of Participant Data

	June 30, 2019	June 30, 2018
Retirees		
Number of retirees	1,459	1,400
Average age of retirees	70.0	69.8
Surviving Spouses		
Number	187	191
Average age	78.3	78.1
Eligible for Deferred Benefit		
Number	303	284
Average age	49.1	49.1
Active Participants		
Number	1,847	1,828
Average age	47.6	47.8
Average years of service	12.0	12.4
Average expected retirement age	62.3	62.2

EXHIBIT II

Actuarial Assumptions/Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2012 through June 30, 2016 Actuarial Experience Study report dated November 10, 2016, the Review of Economic Actuarial Assumptions report dated September 12, 2018 and the Retiree Health assumptions letter dated December 17, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both tiers.
<u>Demographic Assumptions</u>:	
Mortality Rates:	
After Service Retirement and All Beneficiaries	
Males	Headcount-weighted RP-2014 Healthy Annuitant Mortality Table, set forward 2 years, projected 20 years with the two-dimensional improvement scale MP-2015.
Females	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, set forward 1 year, projected 20 years with the two-dimensional mortality improvement scale MP-2015.
After Disability Retirement:	
Males	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, set forward 9 years, projected 20 years with the two-dimensional mortality improvement scale MP-2015.
Females	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, set forward 9 years, projected 20 years with the two-dimensional mortality improvement scale MP-2015.
Pre-retirement	
Males	Headcount-Weighted RP-2014 Employee Mortality Table, set forward 2 years, projected 20 years with the two-dimensional mortality improvement scale MP-2015.
Females	Headcount-Weighted RP-2014 Employee Mortality Table, set forward 1 year, projected 20 years with the two-dimensional mortality improvement scale MP-2015.

The above mortality tables contain a margin slightly less than 20% for males and females combined, based on actual to expected deaths, as a provision to reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

Disability Incidence:

	Rate (%)			Rate (%)	
Age	Male	Female	Age	Male	Female
25	0.000	0.000	50	0.200	0.380
30	0.006	0.030	55	0.200	0.460
35	0.016	0.068	60	0.230	0.560
40	0.068	0.212	65	0.310	0.660
45	0.160	0.330			

Note: Disability rates applicable after eight years of service.

Termination:

	Rate (%)	
	Ordinary Withdrawal*	
Service	Male	Female
0	2.25	3.00
1	1.00	2.50
2	0.75	2.25
3	0.50	2.00
4	0.25	1.25

	Rate (%)			
	Ordinary Withdrawal**		Vested Termination	
Age	Male	Female	Male	Female
25	0.230	0.640	6.40	7.00
30	0.205	0.540	5.40	6.40
35	0.180	0.440	3.50	4.80
40	0.155	0.340	2.20	3.40
45	0.130	0.240	1.70	2.40
50	0.105	0.140	0.96	1.40
55	0.080	0.085	0.48	0.70
60	0.055	0.060	0.34	0.50

* *Applicable for members with less than five years of service.*
** *Applicable after five years of service.*

Retirement Rates:

	Rate (%)			
	1955/1980 Plan		2013 Tier	
Age	Male	Female	Male	Female
52	0.00	0.00	2.00	1.00
53	0.00	0.00	2.00	1.00
54*	6.00	6.00	3.00	2.00
55	7.00	7.00	5.00	4.00
56	7.00	8.00	6.00	5.00
57	9.00	8.00	6.00	5.00
58	10.00	9.00	6.00	5.00
59	10.00	12.00	8.00	7.00
60	13.00	13.00	8.00	7.00
61	13.00	19.00	10.00	11.00
62	25.00	19.00	19.00	15.00
63	20.00	17.00	16.00	12.00
64	15.00	17.00	8.00	12.00
65	25.00	17.00	26.00	17.00
66	25.00	30.00	25.00	20.00
67	20.00	30.00	35.00	25.00
68	25.00	30.00	35.00	35.00
69	40.00	30.00	40.00	35.00
70	100.00	100.00	100.00	100.00

* *The rate for 1955/1980 Plan members age 54 with 30 or more years of service (i.e., eligible for unreduced benefits) is 50% for males and females.*

Retirement Age for Inactive Vested Participants:	59
Unknown Data for Participants:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Spouse/Domestic Partner Coverage:	70% of males and 35% of females are assumed to elect spouse/domestic partner HIB coverage at retirement*. For current retirees, we relied upon the coverage indicated in the data.
Age of Spouse/Domestic Partner:	Spouses/domestic partners of male members are 3 years younger than the member. Spouses/domestic partners of female members are 2 years older than the member.
Future Benefit Accruals:	1.0 year of service per year.**

<u>Economic Assumptions</u>:

Net Investment Return:	7.00%, net of investment and administrative expenses.
Inflation:	2.75%
Across the Board Salary Increases:	0.50%
Payroll Growth:	3.25%

* *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.*

** *We have not applied the 0.036 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.*

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 2.75% per year; plus across the board salary increases of 0.50% per year; plus the following merit and promotion increases:

Years of Service	Merit and Promotion Increases
0	6.00%
1	5.00
2	4.00
3	3.00
4	2.00
5	1.00
6	0.80
7+	0.50

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.

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.

Participation in Health Insurance Benefit Plan:

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 <65/Anthem Cal Care 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 benefit 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 $450 monthly benefit as of July 1, 2019,
- Retirees at 100% vesting level under age 65 with spouse/domestic partner HIB coverage will receive an average $530 monthly benefit as of July 1, 2019,
- Retirees at 100% vesting level age 65 and over with single HIB coverage will receive an average $437 monthly benefit as of July 1, 2019,
- Retirees at 100% vesting level age 65 and over with spouse/domestic partner HIB coverage will receive an average $546 monthly benefit as of July 1, 2019.

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.

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, 2019 through June 30, 2020)

	Non-Medicare			Medicare		
PLAN	**Kaiser**	**Blue Cross**	**Sutter**	**Kaiser**	**Blue Cross**	**Anthem Cal Care**
Trend to be applied to 2019-2020 Fiscal Year premium(1)	6.64%	3.44%	6.43%	3.94%	3.19%	7.49%

			The fiscal year trend rates are based on the following calendar year trend rates:		
Fiscal Year	Trend		Calendar Year	Trend (applied to calculate following year premium)	
	Non-Medicare	**Medicare**		**Non-Medicare**	**Medicare**
2020-2021	6.625%	6.125%	2020	6.75%	6.25%
2021-2022	6.375%	5.875%	2021	6.50%	6.00%
2022-2023	6.125%	5.625%	2022	6.25%	5.75%
2023-2024	5.875%	5.375%	2023	6.00%	5.50%
2024-2025	5.625%	5.125%	2024	5.75%	5.25%
2025-2026	5.375%	4.875%	2025	5.50%	5.00%
2026-2027	5.125%	4.625%	2026	5.25%	4.75%
2027-2028	4.875%	4.500%	2027	5.00%	4.50%
2028-2029	4.625%	4.500%	2028	4.75%	4.50%
2029-2030 and later	4.500%	4.500%	2029 and later	4.50%	4.50%

(1) The 2020 calendar year premiums already include 12 months of the Health Insurance Tax (HIT) so there was no additional adjustments for the HIT. The application of the HIT is based on our understanding of the provisions of the ACA as of the date of the valuation on June 30, 2019. The HIT tax is still in effect until December 31, 2020.

Medical Carrier Election

Medical Carrier	Non-Medicare Election%	Medicare Election%
Kaiser	72	65
Blue Cross	26	27
Sutter Health Plus <65 / Anthem Cal Care 65+	2	8

Changes in Actuarial Assumptions

The average HIB subsidy for future retirees was updated.

Actual calendar year 2020 premiums were reflected in the first year trends.

Updated medical carrier election assumptions.

Updated spouse/domestic partner coverage assumption for female retirees.

The proportion of future retirees expected to participate in the EBMUD medical insurance plans (Kaiser, Blue Cross, Sutter <65/Anthem Cal Care 65+) was lowered from 75% to 70%. The proportion receiving health benefits outside of an EBMUD medical insurance plan was increased from 20% to 25%. The percentage of future eligible retirees participating in the HIB program remained unchanged at 95%.

EXHIBIT III
Summary of Plan

Plan Year:	July 1 through June 30
Census Date:	June 30
Normal or Unreduced Retirement Eligibility:	
Age and Service Requirement	
1955/1980 Plan	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.
2013 Tier	Age 67 with 5 years of service (for unreduced benefit).
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.
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.

Benefit Formula:

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.

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.

5615171v6/10419.001