# EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

THROUGH: Delores Turner, Manager of Human Resources

FROM: Lisa Sorani, Manager of HR Employee Services L.S.

SUBJECT: Retirement Board Regular Meeting – January 15, 2015

A regular meeting of the Retirement Board will convene at 8:30 a.m. on Thursday, January 15, 2015 in the Training Resource Center (TRC1) of the Administration Building.

Enclosed are the agenda for the January 15, 2015 meeting and the minutes for the November 20, 2014 regular meeting. The package also includes the following: **(1) ACTION** items: Adopt the Actuarial Valuation of the Retirement System as of June 20, 2014, Declaring the interest rate to be credited to Members contributions for the period ending December 31, 2014: **(2) INFORMATION** items: Draft Retirement Board Training Policy, Training Opportunities Schedule, Employee Retirement System Education Modules, Training Module – International Equities, Presentation from Investment Manager Fisher Investments, Health Insurance Benefit Survey Results, Explanation of Purchase of Service Calculation; **(3) REPORTS FROM THE RETIREMENT BOARD**.

LS:eg

Enclosures

**AGENDA**
**EBMUD EMPLOYEES' RETIREMENT SYSTEM**
**January 15, 2015**
**Training Resource Center (TRC1) 8:30 a.m.**

**ROLL CALL:**

**PUBLIC COMMENT:** The Retirement Board 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.

**ANNOUNCEMENT OF CLOSED SESSION AGENDA:**

1. Personnel matter pursuant to Government Code Section 54957:
   a. Application for Disability Retirement of Margaret Birmingham (R.B. Resolution No. 6812)

**REGULAR BUSINESS MEETING: Upon completion of Closed Session**

**CONSENT CALENDAR:**

1. Approval of Minutes – Regular meeting of November 20, 2014

2. Ratifying and Approving Investment Transactions by Counselors for October 2014 and November 2014 (R.B. Resolution No. 6813)

3. Ratifying and Approving Short-Term Investment Transactions by Treasurer for October 2014 and November 2014 (R.B. Resolution No.6814)

4. Treasurer's Statement of Receipts and Disbursements for October 2014 and November 2014

**ACTION:**

5. Adopt the Actuarial Valuation of the Retirement System as of June 30, 2014 – E. Sandler

6. Declaring the interest rate to be credited to Members contributions for period ending December 31, 2014 (R.B. Resolution No. 6815) – E. Grassetti

**INFORMATION:**

7. Draft Retirement Board Training Policy – E. Grassetti

8. Training Opportunities Schedule – E. Grassetti

9. Employee Retirement System Education Modules – E. Sandler

10. Training Module - International Equities

11. Presentation from Investment Manager Fisher Investments

12. Health Insurance Benefit Survey Results – E. Grassetti

13. Explanation of Purchase of Service Calculation – E. Grassetti

**REPORTS FROM THE RETIREMENT BOARD:**

14. Brief report on any course, workshop, or conference attended since the last Retirement Board meeting.

**ITEMS TO BE CALENDARED:**

**MEETING ADJOURNMENT:**
***The next regular meeting of the Retirement Board will be held at 8:30 a.m. on Thursday, March 19, 2015.***

**2015 Retirement Board Meetings**

| | | |
|---|---|---|
| March 19, 2015 | May 21, 2015 | July 16, 2015 |
| September 17, 2015 | November 19, 2015 | |

**MINUTES OF THE RETIREMENT BOARD**
**November 20, 2014**

A regular meeting of the Retirement Board convened on Thursday, November 20, 2014 at 8:40 a.m. in the Large Training Resource Center (TRC) Room. The meeting was called to order by President Doug Higashi.

**Roll Call** – The following Retirement Board Members were present: Tim McGowan, Doug Higashi, Frank Mellon, William Patterson and Alex Coate.

The following staff members were present: Dari Barzel, Rod Deiter, Elizabeth Grassetti, Peter Law, Lourdes Matthew, Eric Sandler and Lisa Sorani.

**PUBLIC COMMENT**

There was no public comment.

**ANNOUNCEMENTS FROM CLOSED SESSION**

The Retirement Board approved the disability retirement of Danny Smith (R.B Resolution No. 6809) by unanimous vote.

1 - 4. **Consent Calendar** – A motion was made by Alex Coate and seconded by Doug Higashi to approve the Consent Calendar. The motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Patterson), NOES: (none), ABSTAIN (none), ABSENT (none).

**ACTION**

5. **Watch Status Updates –** Eric Sandler introduced the three sub-items and Neil Rue from PCA provided some comments on each action.
a) **Releasing RREEF II from watch status** - RREEF II has a stable team; has recovered from the real estate down-turn; and has been producing 5-6% income.
b) **Continue watch status for Barrow Hanley** - A value manager which tends to lag market. Is now starting to out-perform, returning 0.6% for the quarter and 8.2% for the year, which is expected.
**c) Placing Intech on watch status** - The motion was moved by Frank Mellon and seconded by William Patterson. The motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Patterson), NOES: (none), ABSTAIN (none) ABSENT (none).

**INFORMATION**

6. **Quarterly Performance Report for Third Quarter 2014 –** Neil Rue of PCA presented the quarterly performance report. The third quarter saw the first negative market in two years, but the portfolio outperformed the median fund due to the strategic shifts made by the Board. The portfolio was down 0.7% for the quarter with a value of $1,341.2 million, but was ahead of the benchmark for all other time periods. Covered calls returned 1.4% for the quarter; domestic

equities had mixed results, returning 16.9% for the year; and fixed-income were way ahead, returning 3.9% for the year.

7. **Annual Retirement System Audited Financial Report –** Eric Sandler reviewed the report, stating that contributions were up 14% and active members were at 1,952, with 1,497 retirees. Funding levels were trending upward. The system's net assets were $1,346.89 million as of June 30, 2014, an increase of $222.56 million (19.79%) for the year. The retirement system received a unqualified opinion from its Auditor, Maze & Associates. This year's financial statements implemented GASB 67.

8. **Retirement Board Training Information –** Elizabeth Grassetti presented information on a survey of training policies from other California public pension plans and a draft training policy. The results of the survey showed that all plans had training policies for Board Members; that a minimum training requirement was standard; and that costs were considered a plan expense. Frank Mellon suggested that the employee tuition reimbursement program could be used to pay for board training, but it was pointed out that the program doesn't reimburse employees for conferences. Tim McGowan requested a specific process for getting training approval. Staff was asked to add to the draft policy to provide for how training is budgeted, approved and tracked.

9. **Benefit Plan Renewals for Calendar Year 2015** – Lisa Sorani briefly reviewed the medical premiums for 2015 – noting that Kaiser and ACWA Blue Cross plans had premium reductions.

10. **Disability Earnings Income Verification for 2014 -** Elizabeth Grassetti reviewed the memo regarding disability retiree income verification. None of the 36 disability retirees earnings exceeded the safeguard which is a disability retiree's final monthly salary inflated by wage increases less their retirement allowance.

11. **Schedule of Retirement Board Meetings for Calendar Year 2015 –** Staff presented the 2015 retirement board meeting schedule.

12**. Brief report on any course, workshop, or conference attended since the last Retirement Board meeting** – Frank Mellon reported that he attended the International Foundation conference in Boston and that there were more sessions on pensions this year. He also recommended that staff attend the Affordable Care Act (ACA) Academy.

Doug Higashi said he was interested in attending the CALAPRS General Assembly in Monterey.

Frank Mellon raised an issue regarding Franklin Templeton's position in regard to the priority of pension benefit payments in the City of Stockton bankruptcy proceedings. He encouraged the Retirement Board to take some action to respond to Franklin Templeton's position. The Board discussed the issue and requested that staff provide more information and the issue be discussed at a future meeting.

Frank Mellon also stated that he had forwarded a ruling from the State Attorney General to Jylana Collins, EBMUD's General Counsel, regarding whether elected Boards of Directors can participate in employee pension plans or if that constitutes a conflict of interest.

Tim McGowan asked staff to walk the board through on how the cost to purchase Temporary Constuction (TC) time is determined. He was concerned that the rate used was incorrect.

**ITEMS TO BE CALENDERED**

- Explanation of purchase of service calculation for Temporary Construction (TC) time
- Information on Franklin Templeton and the City of Stockton
- Draft Retirement Board Training Policy
- Training Opportunities Schedule

**ADJOURNMENT** –William Patterson moved to adjourn the meeting at 10:15 a.m. and Tim McGowan seconded the motion; the motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Patterson), NOES: (none), ABSTAIN (none), ABSENT (none).

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President

ATTEST: ____________________________
Secretary

1/15/2015

**EAST BAY MUNICIPAL UTILITY DISTRICT**

DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Eric L. Sandler, Director of Finance

SUBJECT: Investment Transactions by Retirement Fund Managers for October 2014 and November 2014

The attached Investment Transactions by Retirement Fund Managers report for the months of October 2014 and November 2014 is hereby submitted for Retirement Board approval.

Attachment

ES:SS

## INVESTMENT TRANSACTIONS BY RETIREMENT FUND MANAGERS

**October 2014**

| | PURCHASES | SALES | PORTFOLIO VALUE |
|---|---|---|---|
| **FIXED INCOME** | | | |
| Western Asset Management Co.-IG | $1,418,576 | $1,164,994 | $64,592,814 |
| Western Asset Management Co.-HI | $0 | $0 | $31,812,010 |
| Western Asset Management Co.-HY | $0 | $0 | $31,464,168 |
| C.S. McKee | $21,840,894 | $16,650,565 | $130,556,643 |
| **TOTAL** | **$23,259,470** | **$17,815,559** | **$258,425,634** |
| | | | |
| **DOMESTIC EQUITY** | | | |
| Barrow, Hanley, Mewhinney | $1,524,011 | $2,684,032 | $150,945,318 |
| Opus Capital | $1,193,962 | $1,593,457 | $29,377,487 |
| Russell 1000 Growth Index Fund | $0 | $0 | $223,570,347 |
| Russell 2000 Growth Index Fund | $0 | $0 | $23,451,393 |
| INTECH | $1,665,374 | $1,543,412 | $63,399,260 |
| T. Rowe Price | $2,014,986 | $2,286,817 | $62,018,685 |
| **Total Domestic Equity** | **$6,398,333** | **$8,107,718** | **$552,762,489** |
| | | | |
| **COVERED CALLS** | | | |
| Parametric (BXM) | $2,098,136 | $2,113,737 | $90,578,522 |
| Parametric (Delta-Shift) | $762,459 | $556,009 | $93,295,489 |
| Van Hulzen | $12,647,358 | $12,790,035 | $91,701,616 |
| **Total Covered Calls** | **$15,507,953** | **$15,459,781** | **$275,575,628** |
| | | | |
| **INTERNATIONAL EQUITY** | | | |
| Franklin/Templeton | $2,939,322 | $2,173,578 | $89,410,829 |
| Fisher Investments | $605,051 | $0 | $90,708,646 |
| **Total International Equity** | **$3,544,373** | **$2,173,578** | **$180,119,475** |
| | | | |
| **REAL ESTATE EQUITY** | | | |
| RREEF America II | $273,869 | $0 | $26,414,958 |
| CenterSquare | $2,022,884 | $2,321,164 | $46,016,519 |
| **Total Real Estate** | **$2,296,753** | **$2,321,164** | **$72,431,477** |
| | | | |
| **TOTAL ALL FUND MANAGERS** | **$35,498,929** | **$30,418,019** | **$1,339,314,703** |

**November 2014**

| | PURCHASES | SALES | PORTFOLIO VALUE |
|---|---|---|---|
| **FIXED INCOME** | | | |
| Western Asset Management Co.-IG | $1,969,119 | $1,260,634 | $64,697,379 |
| Western Asset Management Co.-HI | $0 | $0 | $31,875,411 |
| Western Asset Management Co.-HY | $0 | $0 | $31,070,764 |
| C.S. McKee | $2,367,409 | $5,570,638 | $131,441,369 |
| **TOTAL** | **$4,336,528** | **$6,831,272** | **$259,084,923** |
| | | | |
| **DOMESTIC EQUITY** | | | |
| Barrow, Hanley, Mewhinney | $2,344,048 | $2,350,676 | $154,952,764 |
| Opus Capital | $1,064,755 | $895,802 | $29,267,853 |
| Russell 1000 Growth Index Fund | $0 | $0 | $229,490,458 |
| Russell 2000 Growth Index Fund | $0 | $0 | $23,606,881 |
| INTECH | $9,693,672 | $9,520,429 | $65,796,825 |
| T. Rowe Price | $1,059,229 | $1,270,094 | $63,428,475 |
| **Total Domestic Equity** | **$14,161,704** | **$14,037,001** | **$566,543,257** |
| | | | |
| **COVERED CALLS** | | | |
| Parametric (BXM) | $5,116,801 | $4,993,952 | $91,309,298 |
| Parametric (Delta-Shift) | $841,762 | $911,615 | $95,374,665 |
| Van Hulzen | $32,762,539 | $33,323,426 | $92,332,090 |
| **Total Covered Calls** | **$38,721,102** | **$39,228,993** | **$279,016,053** |
| | | | |
| **INTERNATIONAL EQUITY** | | | |
| Franklin/Templeton | $377,078 | $697,039 | $90,353,555 |
| Fisher Investments | $349,337 | $438,416 | $93,983,882 |
| **Total International Equity** | **$726,415** | **$1,135,455** | **$184,337,438** |
| | | | |
| **REAL ESTATE EQUITY** | | | |
| RREEF America II | $0 | $0 | $26,414,958 |
| CenterSquare | $1,180,820 | $763,447 | $46,874,611 |
| **Total Real Estate** | **$1,180,820** | **$763,447** | **$73,289,569** |
| | | | |
| **TOTAL ALL FUND MANAGERS** | **$59,126,569** | **$61,996,168** | **$1,362,271,240** |

Prepared By: Peter Lee Jr Date: December 23, 2014

R.B. RESOLUTION NO. 6813

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE COUNSELORS FOR MONTHS OF OCTOBER, 2014 AND NOVEMBER, 2014

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-5 provides for investment transactions without prior specific approval by the Retirement Board; and

WHEREAS, investment transactions have been consummated during October, 2014 and November, 2014, in accordance with the provisions of said rule and in securities designated as acceptable by Retirement Board Resolution No. 4975, as amended;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions appearing on the following exhibits are hereby ratified and approved.

President

ATTEST:

Secretary

1/15/15

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: November 20, 2014

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short Term Investment Transactions for October 2014

The attached Short Term Investment Transactions report for the month of October 2014 is hereby submitted for Retirement Board approval.

ES/sk

**EBMUD EMPLOYEES' RETIREMENT SYSTEM**
**SHORT TERM INVESTMENT TRANSACTIONS**
**CONSUMMATED BY THE TREASURER**
**MONTH OF OCTOBER 2014**

| COST/ FACE VALUE | DESCRIPTION | DATE OF PURCHASE | DATE OF SALE/MAT | YIELD (%) |
|---|---|---|---|---|
| (7,000,000.00) | Local Agency Investment Fund | | 1-Oct-14 | 0.261 |
| 3,200,000.00 | Local Agency Investment Fund | 10-Oct-14 | | 0.261 |
| 3,200,000.00 | Local Agency Investment Fund | 24-Oct-14 | | 0.261 |
| (7,000,000.00) | Local Agency Investment Fund | | 31-Oct-14 | 0.261 |
| **$ (7,600,000.00)** | Net Activity for Month | | | |

SUBMITTED BY ______________________
D. Scott Klein
Controller

DATE 12-1-14

S. Skoda, Treasury Mgr

WOC for S. Lindley 11/20/14
S. Lindley, Acctg Sys Supvr

prepared by vwong

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: December 18, 2014

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short Term Investment Transactions for November 2014

The attached Short Term Investment Transactions report for the month of November 2014 is hereby submitted for Retirement Board approval.

ES/sk

**EBMUD EMPLOYEES' RETIREMENT SYSTEM**
**SHORT TERM INVESTMENT TRANSACTIONS**
**CONSUMMATED BY THE TREASURER**
**MONTH OF NOVEMBER 2014**

| COST/ FACE VALUE | DESCRIPTION | DATE OF PURCHASE | DATE OF SALE/MAT | YIELD (%) |
|---|---|---|---|---|
| 3,200,000.00 | Local Agency Investment Fund | 7-Nov-14 | | 0.261 |
| 3,200,000.00 | Local Agency Investment Fund | 21-Nov-14 | | 0.261 |
| (7,000,000.00) | Local Agency Investment Fund | | 26-Nov-14 | 0.261 |
| **$ (600,000.00)** | Net Activity for Month | | | |

SUBMITTED BY ______________________ DATE 12-18-14
D. Scott Klein
Controller

S. Skoda, Treasury Mgr

S. Lindley, Acctg Sys Supvr 12/18/14

prepared by vwong

R.B. RESOLUTION NO. 6814

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE TREASURER FOR OCTOBER, 2014 AND NOVEMBER, 2014

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-7 provides for the temporary investment of retirement system funds by the Treasurer or Assistant Treasurer in securities authorized by Sections 1350 through 1366 of the Financial Code or holding funds in inactive time deposits in accordance with Section 12364 of the Municipal Utility District Act; and

WHEREAS, investment transactions during October 2014, and November, 2014 have been made in accordance with the provisions of the said rule;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions consummated by the Treasurer and included on the attached Exhibit A for October 2014, and November, 2014 are hereby ratified and approved.

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President

ATTEST:

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Secretary

1/15/2015

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: November 20, 2014

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance E.S.

FROM: D. Scott Klein, Controller

SUBJECT: Statement of Receipts and Disbursements for October 2014

The attached Statement of Receipts and Disbursements report for the month of October 2014 is hereby submitted for Retirement Board approval.

ES/sk

**STATEMENT OF RECEIPTS AND DISBURSEMENTS**
**EMPLOYEES' RETIREMENT FUND**
**MONTH OF OCTOBER 2014**

| | | | | |
|---|---|---|---|---|
| CASH BALANCE September 30, 2014 | | | $ | (6,502,583.97) |
| **RECEIPTS** | | | | |
| Employees' Contributions | $ | 1,004,408.63 | | |
| District Contributions | | 5,566,192.28 | | |
| LAIF Redemptions | | 14,000,000.00 | | |
| Commission Recapture | | 4,465.96 | | |
| TOTAL Receipts | | | | 20,575,066.87 |
| **DISBURSEMENTS** | | | | |
| Checks/Wires Issued: | | | | |
| Service Retirement Allowances | $ | 6,016,829.13 | | |
| Disability Retirement Allowances | | 140,726.91 | | |
| Health Insurance Benefit | | 797,907.43 | | |
| LAIF Deposits | | 6,400,000.00 | | |
| Administrative Cost | | 87,763.11 | | |
| TOTAL Disbursements | | | | (13,443,226.58) |
| CASH BALANCE OCTOBER 31, 2014 | | | $ | 629,256.32 |
| LAIF | | | | 15,075,182.80 |
| LAIF and Cash Balance OCTOBER 31, 2014 | | | $ | 15,704,439.12 |
| **Domestic Equity** | | | | |
| Barrow Hanley | $ | 150,945,318.27 | | |
| Russell 1000 Index Fund | | 223,570,347.26 | | |
| Russell 2000 Growth Index Fund | | 23,451,392.65 | | |
| Opus | | 29,377,486.74 | | |
| Intech | | 63,399,259.66 | | |
| T. Rowe Price | | 62,018,684.71 | | |
| Subtotal Domestic Equity | | 552,762,489.29 | | |
| **Covered Calls** | | | | |
| Parametric (BXM) | $ | 90,578,522.34 | | |
| Parametric (Delta-Shift) | | 93,295,489.25 | | |
| Van Hulzen | | 91,701,615.98 | | |
| Subtotal Covered Calls | | 275,575,627.57 | | |
| **International Equity** | | | | |
| Franklin/Templeton | $ | 89,410,828.62 | | |
| Fisher Investments | | 90,708,645.93 | | |
| Subtotal International Equity | | 180,119,474.55 | | |
| **Real Estate** | | | | |
| Real Estate RREEF | $ | 26,414,958.00 | | |
| Center Square | | 46,016,518.72 | | |
| Subtotal Real Estate | | 72,431,476.72 | | |
| **Fixed Income** | | | | |
| CS Mckee | $ | 130,556,642.51 | | |
| Western Asset Mgt Co-Short Term Inv Grade | | 64,592,814.21 | | |
| Western Asset Mgt Co-Short Term High Income | | 31,812,010.10 | | |
| Western Asset Mgt Co-Short Term High Yield | | 31,464,167.63 | | |
| Subtotal Fixed Income | | 258,425,634.45 | | |
| Total for Domestic & International Equities | | | | 1,339,314,702.58 |
| MARKET VALUE OF ASSETS at OCTOBER 31, 2014 | | | $ | 1,355,019,141.70 |

Respectfully submitted,

D. Scott Klein
Controller

S. Skoda
Treasury Mgr.

M. Ng??? woc for S. Lindley 11/20/14

S. Lindley
Acctg Sys Supvr
prepared by vwong

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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| | |
|---|---|
| DATE: | December 18, 2014 |
| MEMO TO: | Members of the Retirement Board |
| THROUGH: | Eric L. Sandler, Director of Finance |
| FROM: | D. Scott Klein, Controller |
| SUBJECT: | Statement of Receipts and Disbursements for November 2014 |

The attached Statement of Receipts and Disbursements report for the month of November 2014 is hereby submitted for Retirement Board approval.

ES/sk

## STATEMENT OF RECEIPTS AND DISBURSEMENTS
## EMPLOYEES' RETIREMENT FUND
## MONTH OF NOVEMBER 2014

| | | | | |
|---|---|---|---|---|
| CASH BALANCE October 31, 2014 | | | $ | 629,256.32 |
| **RECEIPTS** | | | | |
| Employees' Contributions | $ | 1,009,331.53 | | |
| District Contributions | | 5,586,236.41 | | |
| LAIF Redemptions | | 7,000,000.00 | | |
| Commission Recapture | | 740.09 | | |
| TOTAL Receipts | | | | 13,596,308.03 |
| **DISBURSEMENTS** | | | | |
| Checks/Wires Issued: | | | | |
| Service Retirement Allowances | $ | 6,026,405.70 | | |
| Disability Retirement Allowances | | 140,726.91 | | |
| Health Insurance Benefit | | 830,830.06 | | |
| LAIF Deposits | | 6,400,000.00 | | |
| Administrative Cost | | 79,430.96 | | |
| TOTAL Disbursements | | | | (13,477,393.63) |
| CASH BALANCE NOVEMBER 30, 2014 | | | $ | 748,170.72 |
| LAIF | | | | 14,475,182.80 |
| LAIF and Cash Balance NOVEMBER 30, 2014 | | | $ | 15,223,353.52 |
| **Domestic Equity** | | | | |
| Barrow Hanley | $ | 154,952,764.45 | | |
| Russell 1000 Index Fund | | 229,490,457.96 | | |
| Russell 2000 Growth Index Fund | | 23,606,881.49 | | |
| Opus | | 29,267,852.96 | | |
| Intech | | 65,796,825.08 | | |
| T. Rowe Price | | 63,428,474.99 | | |
| Subtotal Domestic Equity | | 566,543,256.93 | | |
| **Covered Calls** | | | | |
| Parametric (BXM) | $ | 91,309,298.03 | | |
| Parametric (Delta-Shift) | | 95,374,665.31 | | |
| Van Hulzen | | 92,332,089.82 | | |
| Subtotal Covered Calls | | 279,016,053.16 | | |
| **International Equity** | | | | |
| Franklin/Templeton | $ | 90,353,555.24 | | |
| Fisher Investments | | 93,983,882.43 | | |
| Subtotal International Equity | | 184,337,437.67 | | |
| **Real Estate** | | | | |
| Real Estate RREEF | $ | 26,414,958.00 | | |
| Center Square | | 46,874,610.92 | | |
| Subtotal Real Estate | | 73,289,568.92 | | |
| **Fixed Income** | | | | |
| CS Mckee | $ | 131,441,368.78 | | |
| Western Asset Mgt Co-Short Term Inv Grade | | 64,697,379.36 | | |
| Western Asset Mgt Co-Short Term High Income | | 31,875,410.55 | | |
| Western Asset Mgt Co-Short Term High Yield | | 31,070,764.49 | | |
| Subtotal Fixed Income | | 259,084,923.18 | | |
| Total for Domestic & International Equities | | | | 1,362,271,239.86 |
| MARKET VALUE OF ASSETS at NOVEMBER 30, 2014 | | | $ | 1,377,494,593.38 |

Respectfully submitted,

D. Scott Klein
Controller

S. Skoda
Treasury Mgr

S. Lindley 12/18/14
Acctg Sys Supvr

prepared by vwong

**EAST BAY MUNICIPAL UTILITY DISTRICT**

DATE: January 15, 2015

MEMO TO: Retirement Board

FROM: Eric L. Sandler, Director of Finance

SUBJECT: Adopt the Actuarial Valuation of the Retirement System as of June 30, 2014, including employer contribution rates for the 1955/1980 and 2013 pension plans and the Health Insurance Benefit (HIB).

## RECOMMENDATION

Adopt the Actuarial Valuation of the Retirement System as of June 30, 2014 prepared by Segal Consulting. Adopt FY 2016 employer and employee (2013 Plan) contribution rates for the 1955/1980 and 2013 pension plans and the HIB. The new District contribution rates for FY16 will take effect starting with paychecks issued on July 3, 2015.

## DISCUSSION

The market value of pension and HIB assets in the Retirement System increased from approximately $1.124 billion on June 30, 2013 to approximately $1.347 Billion on June 30, 2014, an increase of about 19.8%. As shown in Appendix A of the Actuarial Valuation report, the result of this increase in the market value of assets contributed to an increase in the combined pension and HIB funded ratio from 63.5% on June 30, 2013 to 65.9% on June 30, 2014.

The Actuarial Report recommends the following employer and employee contribution rates for both the 1955/1980 and 2013 pension plans and the HIB as shown in the table below, compared with those for FY 2015. Decreases in the contribution rates reflect strong market performance of the fund between June 30, 2013 and June 30, 2014. The analyses also take into account the change in the investment return assumption, which was decreased from 7.75% to 7.5%.

| Recommended Contribution Rates | | | | |
|---|---|---|---|---|
| | FY16 | | FY15 | |
| **Employer** | **1955/1980 Plan** | **2013 Plan** | **1955/1980 Plan** | **2013 Plan** |
| Pension | 37.71% | 30.92% | 38.61% | 32.24% |
| HIB | 5.51% | 5.06% | 5.45% | 5.11% |
| **Total** | **43.22%** | **35.98%** | **44.06%** | **37.35%** |
| **Member** | | | | |
| Pension | 8.32%* | 8.75% | 7.84%* | 8.75% |
| HIB | 0.09% | 0.09% | 0.09% | 0.09% |
| **Total** | **8.41%** | **8.84%** | **7.93%** | **8.84%** |

*Reflects contribution rates negotiated with District unions. The rate shown is a blended rate as the 1955/1980 Plan member rate changes in April of each year shown.

Pursuant to an approved Memoranda of Understanding between the District and its employee unions, the member contribution rate for the 1955/1980 Plan members was increased from 6.83% to 7.33% effective April 22, 2013, and increased to 7.83% beginning April 21, 2014. The negotiated contribution rate will be further increased to 8.33% beginning April 20, 2015, and to 8.75% beginning April 18, 2016. These member rates include a 0.09% contribution to the HIB.

Members of the 2013 Plan contribute 50% of the normal cost of their pension plan. Based on the Actuarial Valuation, this amount remains unchanged at 8.75%. Additionally, members of the 2013 Plan also make a contribution of 0.09% toward the HIB.

Mr. Andy Yeung of Segal Consulting will be at the meeting to review the attached reports.

ES:SDS

Attachments: Actuarial Valuation and Review of Pension Plan and HIB
Review of Pension Plan
HIB Valuation
GASB Review

# East Bay Municipal Utility District Retirement System

## Actuarial Valuation and Review of Pension Plan and Health Insurance Benefit Plan as of June 30, 2014

## 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. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting

100 MONTGOMERY STREET, SUITE 500 SAN FRANCISCO, CA 94104
T 415.263.8200 www.segalco.com

January 7, 2015

Mr. Eric L. Sandler
Director of Finance
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

**Re: June 30, 2014 Actuarial Valuations – Supplemental Exhibits**

Dear Eric:

Enclosed please find two exhibits that provide supplemental information to the June 30, 2014 actuarial valuations for the pension and health insurance benefit (HIB) plans. For the HIB plan, this information is based on our HIB funding valuation report dated January 7, 2015 that includes a monthly benefit of $450 ($550 benefit for a retiree with a spouse or qualified 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 provides a summary of results for both the pension plan and HIB plan valuations. In Exhibit B, we have included a comparison of the historical Pension Benefit Obligations with the market value of assets for both plans. We look forward to discussing this information with you and the Board.

Sincerely,

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

DNA/gxk
Enclosures

5348917v3/10419.001

# Exhibit A

**East Bay Municipal Utility District Retirement System**
**Summary of Significant Valuation Results**

| | | June 30, 2014 | June 30, 2013 | Percent Change |
|---|---|---|---|---|
| **I.** | **Total Membership** | | | |
| | A. Active Members | 1,715 | 1,666 | 2.9% |
| | B. Pensioners and Beneficiaries | 1,497 | 1,440 | 4.0% |
| **II.** | **Valuation Salary**(1) | | | |
| | A. Total Annual Payroll | $167,195,870 | $159,246,357 | 5.0% |
| | B. Average Yearly Salary | 97,490 | 95,586 | 2.0% |
| **III.** | **Total System Assets** | | | |
| | A. Valuation Value of Pension Plan Assets | $1,210,321,029 | $1,095,847,440 | 10.4% |
| | B. Valuation Value of HIB Plan Assets | 19,634,350 | 16,522,381 | 18.8% |
| | C. Total Valuation Value (Actuarial Value) | $1,229,955,379 | $1,112,369,821 | 10.6% |
| | D. Market Value of Pension Plan Assets | $1,325,387,000 | $1,107,628,000 | 19.7% |
| | E. Market Value of HIB Plan Assets | 21,501,000 | 16,700,000 | 28.7% |
| | F. Total Market Value | $1,346,888,000 | $1,124,328,000 | 19.8% |
| **IV.** | **Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio** | | | |
| | A. Pension Plan | $546,385,371 | $550,686,687 | (0.8)% |
| | B. Funded Ratio(2) | 68.9% | 66.6% | N/A |
| | C. HIB Plan | $90,222,467 | $87,853,214 | 2.7% |
| | D. Funded Ratio(2) | 17.9% | 15.8% | N/A |
| | E. Pension Plan and HIB Plan | $636,607,838 | $638,539,901 | (0.3)% |
| | F. Funded Ratio(2) | 65.9% | 63.5% | N/A |

(1) *Projected payroll.*

(2 *Based on valuation value of assets.*

Note: The health insurance benefits (HIB) information is based on our HIB funding valuation report that includes a monthly benefit of $450 ($550 for a retiree with a spouse or qualified 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 Retirement System**
**Summary of Significant Valuation Results**

| | | June 30, 2014 | June 30, 2013 | Percent Change |
|---|---|---|---|---|
| **V.** | **Projected Benefit Obligation** | | | |
| | A. Pension Plan | $1,699,448,000 | $1,589,017,000 | 6.9% |
| | B. Funded Ratio[3] | 78.0% | 69.7% | N/A |
| | C. HIB Plan | $115,901,000 | $110,323,000 | 5.1% |
| | D. Funded Ratio[3] | 18.6% | 15.1% | N/A |
| | E. Pension Plan and HIB Plan | $1,815,349,000 | $1,699,340,000 | 6.8% |
| | F. Funded Ratio[3] | 74.2% | 66.2% | N/A |

| **VI. Budget Items[4]** | FY 2015-2016 | | | FY 2014-2015 | | | Change | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1955/1980 Plan | 2013 Tier | Combined[5] | 1955/1980 Plan | 2013 Tier | Combined[5] | 1955/1980 Plan | 2013 Tier | Combined[5] |
| A. Pension Plan | | | | | | | | | |
| 1. Total Normal Cost | 23.18% | 16.82% | 22.81% | 22.86% | 17.40% | 22.54% | 0.32% | (0.58)% | 0.27% |
| 2. Employee Contributions | -8.32%[6] | -8.75% | -8.34% | -7.84%[7] | -8.75% | -7.89% | -0.48% | -0.00% | -0.45% |
| 3. Employer Normal Cost | 14.86% | 8.07% | 14.47% | 15.02% | 8.65% | 14.65% | (0.16)% | (0.58)% | (0.18)% |
| 4. UAAL (paid by Employer) | 22.85% | 22.85% | 22.85% | 23.59% | 23.59% | 23.59% | (0.74)% | (0.74)% | (0.74)% |
| 5. Total Employer Contribution | 37.71% | 30.92% | 37.32% | 38.61% | 32.24% | 38.24% | (0.90)% | (1.32)% | (0.92)% |
| B. HIB Plan | | | | | | | | | |
| 1. Total Normal Cost | 1.31% | 0.86% | 1.29% | 1.30% | 0.96% | 1.28% | 0.01% | (0.10)% | 0.01% |
| 2. Employee Contributions | -0.09% | -0.09% | -0.09% | -0.09% | -0.09% | -0.09% | -0.00% | -0.00% | -0.00% |
| 3. Employer Normal Cost | 1.22% | 0.77% | 1.20% | 1.21% | 0.87% | 1.19% | 0.01% | (0.10)% | 0.01% |
| 4. UAAL (paid by Employer) | 4.29% | 4.29% | 4.29% | 4.24% | 4.24% | 4.24% | 0.05% | 0.05% | 0.05% |
| 5. Total Employer Contribution | 5.51% | 5.06% | 5.49% | 5.45% | 5.11% | 5.43% | 0.06% | (0.05)% | 0.06% |
| C. Total Contribution | | | | | | | | | |
| 1. Employee Contribution (A2 + B2) | 8.41% | 8.84% | 8.43% | 7.93% | 8.84% | 7.98% | 0.48% | 0.00% | 0.45% |
| 2. Employer Contribution (A5 + B5) | 43.22% | 35.98% | 42.81% | 44.06% | 37.35% | 43.67% | (0.84)% | (1.37)% | (0.86)% |

(3) *Based on market value of assets.*

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

(5) *Aggregated based on June 30, 2014 projected annual payroll.*

(6) *The rate of 8.32% payable during fiscal year 2015/2016 is calculated by taking 80% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%) and 20% of the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.*

(7) *The rate of 7.84% payable during fiscal year 2014/2015 is calculated by taking 80% of the total employee rate payable beginning April 21, 2014 (i.e., 7.83%) and 20% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%), less the HIB employee contribution rate of 0.09%.*

## Exhibit B

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

| Actuarial Valuation Date | Projected Benefit Obligation | Market Value of Assets | Funded Ratio |
|---|---|---|---|
| 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% |

# East Bay Municipal Utility District Retirement System

## Actuarial Valuation and Review of Pension Plan as of June 30, 2014

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. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting

100 MONTGOMERY STREET, SUITE 500 SAN FRANCISCO, CA 94104
T 415.263.8200 www.segalco.com

*January 7, 2015*

*Mr. Eric L. Sandler*
*Director of Finance*
*East Bay Municipal Utility District*
*375 Eleventh Street*
*Oakland, CA 94607-4240*

*Dear Eric:*

*We are pleased to submit this Actuarial Valuation and Review as of June 30, 2014 for only the pension plan. The Actuarial Valuation and Review for the health insurance benefit (HIB) plan is provided in a separate report. This report summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2015/2016 and analyzes the preceding year's experience.*

*This report was prepared in accordance with generally accepted actuarial principles and practices, at the request of the Board to assist in administering the Plan. The census and financial information on which our calculations were based were prepared by EBMUD. That assistance is gratefully acknowledged.*

*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 (such as the end of an amortization period); 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. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.*

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

*Sincerely,*

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

*By:* Andy Yeung

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

*JWL/gxk*

## SECTION 1

### VALUATION SUMMARY



## SECTION 2

### VALUATION RESULTS



## SECTION 3

### SUPPLEMENTAL INFORMATION



## SECTION 4

### REPORTING INFORMATION

**Purpose**

This report has been prepared by Segal Consulting to present a valuation of the East Bay Municipal Utility District Retirement System as of June 30, 2014. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the pension plan, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of June 30, 2014, provided by EBMUD;
- The assets of the plan as of June 30, 2014, provided by EBMUD;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2014 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc., adopted by the Board for the June 30, 2014 valuation.

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.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's assets, 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 payment or credit to amortize any unfunded or overfunded actuarial accrued liabilities. In the valuation, new UAAL established on or after July 1, 2011 as a result of actuarial gains or losses and change in actuarial assumptions has been amortized over separate declining 20-year and 25-year periods, respectively. The balance of the UAAL established prior to July 1, 2011 continues to be amortized in layers over the current respective remaining fixed periods. The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2015 through June 30, 2016.

**Significant Issues in Valuation Year**

The following key findings were the result of this actuarial valuation:

*Ref: Pg. 39*

- The results of this valuation reflect changes in the economic actuarial assumptions as recommended by Segal Consulting and adopted by the Board on September 18, 2014. These changes were documented in our economic actuarial assumptions report dated September 12, 2014 and are also outlined in Section 4, Exhibit V of this report. These assumption changes resulted in an increase in the combined (1955/1980 Plan and 2013 Tier) employer contribution rate of 1.00% of payroll.

*Ref: Pgs. 29 and 37*

- The funded ratio measured on a valuation value of assets basis increased from 66.6% at June 30, 2013 to 68.9% at June 30, 2014. The funded ratio if measured on a market value of assets basis increased from 67.3% to 75.4%. The UAAL decreased from $550.7 million as of June 30, 2013 to $546.4 million as of June 30, 2014. The decrease in the UAAL is primarily due to (a) the higher than expected return on the valuation value of assets (after smoothing), (b) less than expected salary increases for actives, and (c) less than expected COLA increases for retirees and beneficiaries, offset somewhat by (d) changes in the economic actuarial assumptions, and (e) other actuarial losses (including, primarily, a mortality loss from retired members and larger than expected liabilities for new retirees from active service). A complete reconciliation of the System's unfunded actuarial accrued liability is provided in Section 3, Exhibit G.

*Ref: Pg. 16*

- The <u>aggregate</u> employer rate calculated in this valuation has decreased from 38.24% of payroll to 37.32% of payroll. The decrease in the employer rate was primarily due to (a) higher than expected return on the valuation value of assets (after smoothing), (b) less than expected salary increases for individual active members, (c) more than expected growth in total payroll base to amortize the System's UAAL, (d) less than expected COLA increases for retirees and beneficiaries, and (e) the increase in the employee contribution rates for the 1955/1980 Plan members, offset somewhat by (f) the normal one-year lag in implementing the higher contribution rate calculated in the June 30, 2013 valuation for fiscal year 2014-2015, (g) the changes in the economic actuarial assumptions, and (h) other actuarial losses (including, primarily, a mortality loss from retired members and larger than expected liabilities for new retirees from active service).

*Ref: Pg. 17*

- The <u>aggregate</u> member rate calculated in this valuation has increased from 7.89% of payroll to 8.34% of payroll mainly due to the increase in the member rates for the 1955/1980 Plan members. A reconciliation of the System's aggregate member rate is provided in Section 2, Subsection D (see Chart 15).

*Ref: Pg. 5*

- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total unrecognized investment <u>gain</u> as of June 30, 2014 is $116.9 million for the assets for the pension and HIB plans (note that in the previous valuation, this amount was a deferred gain of $12.0 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 7.50% per year (net of expenses) on a market value basis will produce investment gains on the actuarial value of assets after June 30, 2014.

The deferred gains of $116.9 million represent 8.7% of the market value of assets as of June 30, 2014. Unless offset by future investment losses or other unfavorable experience, the recognition of the $116.9 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 pension plan portion of the deferred gains were recognized immediately and entirely in the valuation value of assets, the funded percentage would increase from 68.9% to 75.4%.
- If the pension plan portion of the deferred gains were recognized immediately and entirely in the valuation value of assets, the aggregate employer rate would decrease from 37.32% to about 32.3% of payroll.

- The actuarial valuation report as of June 30, 2014 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.

- The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. The information needed to comply with Statement 67 was provided in our report dated August 20, 2014. The information needed to comply with Statement 68 will be provided in a separate report.

Impact of Future Experience on Contribution Rates

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
- Difference between the contribution rates determined by the valuation and those adopted by the Board.

## Summary of Key Valuation Results

| | June 30, 2014 | | June 30, 2013 | |
|---|---|---|---|---|
| **Employer Contribution Rates:** *(payable at the end of each pay period)* | Total Rate | Estimated Annual Amount[1] | Total Rate | Estimated Annual Amount[1] |
| 1955/1980 Plan | 37.71% | $59,416,990 | 38.61% | $60,835,056 |
| 2013 Tier | 30.92% | 2,978,497 | 32.24% | 3,105,652 |
| Combined | 37.32% | 62,395,487 | 38.24% | 63,940,708 |
| **Average Member Contribution Rates:** *(payable at the end of each pay period)* | Total Rate | Estimated Annual Amount[1] | Total Rate | Estimated Annual Amount[1] |
| 1955/1980 Plan | 8.32%[2] | $13,109,238 | 7.84%[3] | $12,352,936 |
| 2013 Tier | 8.75% | 842,880 | 8.75% | 842,880 |
| Combined | 8.34% | 13,952,118 | 7.89% | 13,195,816 |
| **Funded Status:** | | | | |
| Actuarial accrued liability (AAL) | | $1,756,706,400 | | $1,646,534,127 |
| Valuation value of pension plan assets[4] (VVA) | | 1,210,321,029 | | 1,095,847,440 |
| Market value of pension plan assets[4] (MVA) | | 1,325,387,000 | | 1,107,628,000 |
| Actuarial value of pension plan and HIB plan assets | | 1,229,955,379 | | 1,112,369,821 |
| Market value of pension plan and HIB plan assets | | 1,346,888,000 | | 1,124,328,000 |
| Funded ratio on VVA basis | | 68.9% | | 66.6% |
| Funded ratio on pension plan MVA basis | | 75.4% | | 67.3% |
| Unfunded actuarial accrued liability (UAAL) on VVA basis | | $546,385,371 | | $550,686,687 |
| Unfunded actuarial accrued liability (UAAL) on pension plan MVA basis | | 431,319,400 | | 538,906,127 |

(1) *Estimated based on June 30, 2014 projected payroll of $167,195,870.*

(2) *The rate of 8.32% payable during fiscal year 2015/2016 is calculated by taking 80% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%) and 20% of the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.*

(3) *The rate of 7.84% payable during fiscal year 2014/2015 is calculated by taking 80% of the total employee rate payable beginning April 21, 2014 (i.e., 7.83%) and 20% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%), less the HIB employee contribution rate of 0.09%.*

(4) *Net of HIB plan assets.*

**Summary of Key Valuation Results (continued)**

| | June 30, 2014 | June 30, 2013 |
|---|---|---|
| **Employer Contributions:** | | |
| Actuarially determined employer contributions | $61,660,000 | $53,795,000 |
| Actual contributions | 61,660,000 | 53,795,000 |
| Percentage contributed | 100% | 100% |
| **Demographic Data:** | | |
| Number of retired participants and beneficiaries | 1,497 | 1,440 |
| Number of vested former participants* | 237 | 232 |
| Number of active participants | 1,715 | 1,666 |
| Projected total payroll | $167,195,870 | $159,246,357 |
| Projected average payroll | 97,490 | 95,586 |
| **Key Economic Assumptions:** | | |
| Interest rate | 7.50% | 7.75% |
| Inflation rate | 3.00% | 3.25% |
| Across the board salary increase | 0.50% | 0.50% |
| Cost of living adjustments | 3.00% | 3.15% |

** Includes terminated participants due a refund of employee contributions only.*

## A. PARTICIPANT DATA

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

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

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

*A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.*

**CHART 1**

**Participant Population: 2005 – 2014**

| Year Ended June 30 | Active Participants | Vested Terminated Participants* | Retired Participants and Beneficiaries | Ratio of Non-Actives to Actives |
|---|---|---|---|---|
| 2005 | 1,801 | 213 | 1,052 | 0.70 |
| 2006 | 1,790 | 220 | 1,105 | 0.74 |
| 2007 | 1,804 | 223 | 1,144 | 0.76 |
| 2008 | 1,795 | 234 | 1,199 | 0.80 |
| 2009 | 1,792 | 230 | 1,230 | 0.81 |
| 2010 | 1,756 | 222 | 1,270 | 0.85 |
| 2011 | 1,702 | 226 | 1,325 | 0.91 |
| 2012 | 1,703 | 224 | 1,361 | 0.93 |
| 2013 | 1,666 | 232 | 1,440 | 1.00 |
| 2014 | 1,715 | 237 | 1,497 | 1.01 |

* *Includes terminated participants due a refund of employee contributions only.*

*These graphs show a distribution of active participants by age and by years of service.*

**Active Participants**

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 1,715 active participants with an average age of 49.3, average service of 14.3 years and average payroll of $97,490. The 1,666 active participants in the prior valuation had an average age of 49.7, average service of 14.9 years and average payroll of $95,586.

**Inactive Participants**

In this year's valuation, there were 237 participants with a vested right to a deferred or immediate vested benefit compared to 232 in the prior valuation.

**CHART 2**

**Distribution of Active Participants by Age as of June 30, 2014**

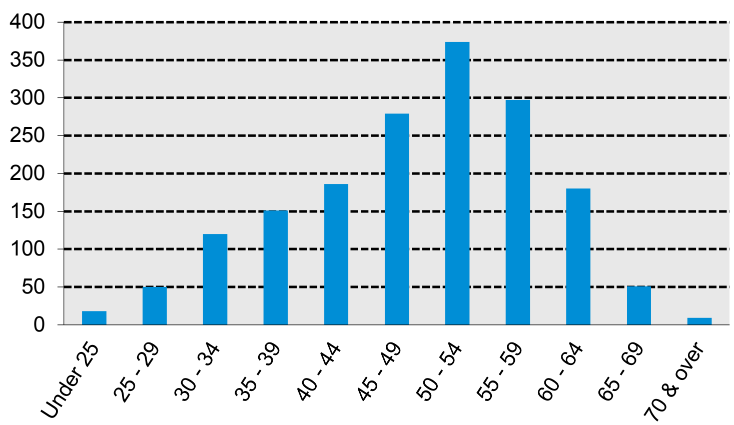
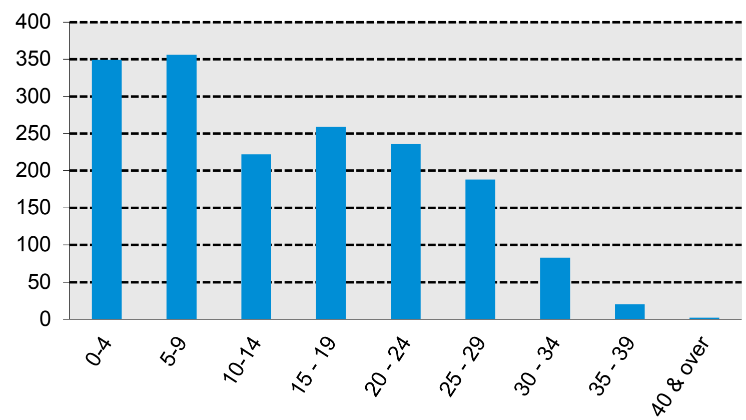



**CHART 3**

**Distribution of Active Participants by Years of Service as of June 30, 2014**



### Retired Participants and Beneficiaries

As of June 30, 2014, 1,232 retired participants and 265 beneficiaries were receiving total monthly benefits of $6,262,591. For comparison, in the previous valuation, there were 1,181 retired participants and 259 beneficiaries receiving monthly benefits of $5,770,429.

*These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.*

**CHART 4**

**Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of June 30, 2014**

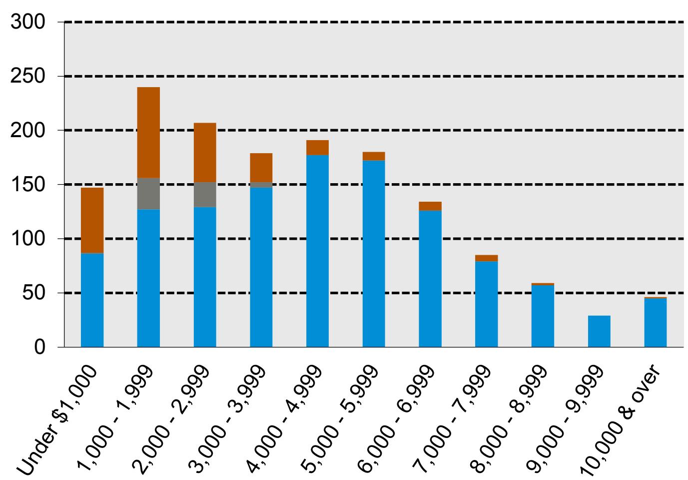
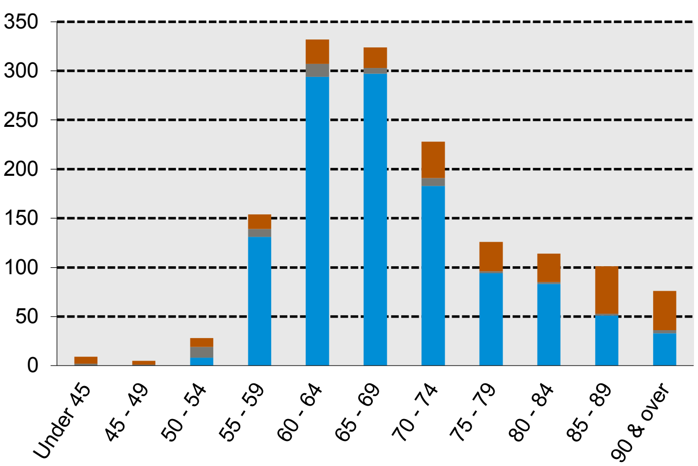



**CHART 5**

**Distribution of Retired Participants and Beneficiaries by Type and by Age as of June 30, 2014**




■ Beneficiary

■ Disability

■ Regular

**B. FINANCIAL INFORMATION**

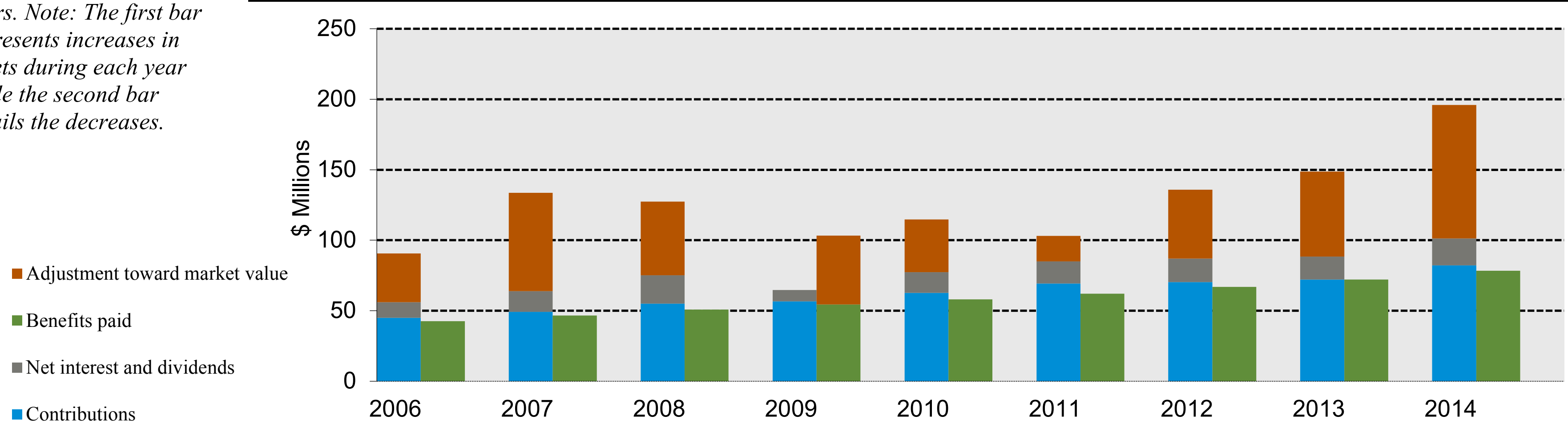
Pension plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Pension plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D, E and F.

*The chart depicts the components of changes in the actuarial value of assets over the last nine years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.*

**CHART 6**

**Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2006 – 2014 (for pension and HIB benefits)**



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 7**

**Determination of Actuarial Value of Assets for Year Ended June 30, 2014 (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 | | | | | $1,325,387,000 |
| (b) HIB plan | | | | | 21,501,000 |
| (c) Total | | | | | $1,346,888,000 |
| 2. Calculation of deferred return: | | | | | |
| (a) Year ended June 30, 2008 | $(76,707,000) | $75,340,031 | $(152,047,031) | see footnote (1) below | |
| (b) Year ended June 30, 2009 | (171,905,000) | 69,269,846 | (241,174,846) | | |
| (c) Year ended June 30, 2010 | 95,737,000 | 55,360,181 | 40,376,819 | | |
| (d) Year ended June 30, 2011 | 191,970,000 | 61,812,840 | 130,157,160 | 25% | $368,118 |
| (e) Year ended June 30, 2012 | 15,202,000 | 77,600,360 | (62,398,360) | 40% | (24,959,344) |
| (f) Year ended June 30, 2013 | 137,318,000 | 76,491,803 | 60,826,197 | 60% | 36,495,718 |
| (g) Year ended June 30, 2014 | 218,575,000 | 87,289,839 | 131,285,161 | 80% | 105,028,129 |
| (h) Total unrecognized return* | | | | | $116,932,621 |
| 3. Preliminary actuarial value: (1c) - (2h) | | | | | $1,229,955,379 |
| 4. Adjustment to be within 30% corridor of market value | | | | | 0 |
| 5. Final actuarial value of assets for pension and HIB plans: (3) + (4) | | | | | $1,229,955,379 |
| 6. Actuarial value as a percentage of market value: (5) ÷ (1c) | | | | | 91.3% |
| 7. Valuation value of pension plan assets: (1a) ÷ (1c) x (5) | | | | | $1,210,321,029 |

(1) *Based on action taken by the Board in 2012, the total deferred gain of $1,472,475 through June 30, 2011 as of that valuation has been recognized in four level amounts, with one year of recognition remaining after the June 30, 2014 valuation.*

* *The amount of deferred return that will be recognized in each subsequent valuation is as follows (amounts may not total exactly due to rounding):*

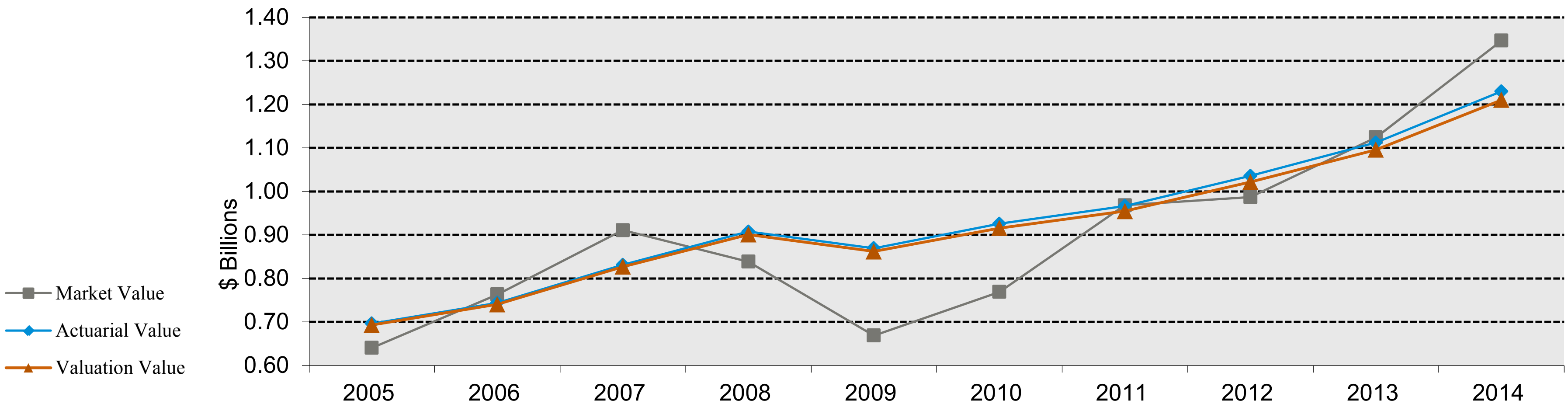
| | |
|---|---|
| *6/30/2015* | *$26,310,719* |
| *6/30/2016* | *25,942,600* |
| *6/30/2017* | *38,422,272* |
| *6/30/2018* | *26,257,032* |
| *Total* | *$116,932,621* |

The market value, actuarial value, and valuation value of assets are representations of EBMUD'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 EBMUD'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.

*This chart shows the change in the actuarial value of assets versus the market value over the past ten years.*

**CHART 8**

**Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2005 – 2014***




* *Market Value and Actuarial Value of Assets are for pension and HIB benefits. Valuation Value of Assets are for pension benefits only.*

## C. ACTUARIAL EXPERIENCE

To calculate the required 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 contribution requirement will decrease from the previous year. On the other hand, the contribution requirement 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.

The total gain is $26,406,581, a $27,056,567 gain from investments and a $649,986 loss from all other sources. The net experience variation from individual sources other than investments was 0.04% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is provided on the following pages.

*This chart provides a summary of the actuarial experience during the past year.*

**CHART 9**

**Actuarial Experience for Year Ended June 30, 2014**

| | | |
|---|---|---|
| 1. | Net gain from investments* | $27,056,567 |
| 2. | Net loss from other experience** | (438,437) |
| 3. | Net loss from one year delay in implementing the higher contribution rate calculated in the June 30, 2013 valuation until fiscal year 2014/2015 | (211,549) |
| 4. | Net experience gain: (1) + (2) + (3) | $26,406,581 |

* *Details in Chart 10.*

** *Details in Section 3, Exhibit G.*

**Investment Rate of Return**

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 EBMUD's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets is 7.75% (for the June 30, 2013 valuation). The actual rate of return on a valuation value basis (after smoothing) for the 2014 plan year was 10.22%.

Since the actual return for the year was greater than the assumed return, EBMUD experienced an actuarial gain during the year ended June 30, 2014 with regard to its investments.

*This chart shows the gain/(loss) due to investment experience.*

**CHART 10**

**Investment Experience for Year Ended June 30, 2014 – Valuation Value, Actuarial Value, and Market Value of Assets**

| | Valuation Value (includes pension plan assets only) | Actuarial Value (includes pension and HIB plan assets) | Market Value (includes pension and HIB plan assets) |
|---|---|---|---|
| 1. Actual return | $112,077,589 | $113,600,558 | $218,575,000 |
| 2. Average value of assets | $1,097,045,440 | $1,114,362,321 | $1,126,320,500 |
| 3. Actual rate of return: (1) ÷ (2) | 10.22% | 10.19% | 19.41% |
| 4. Assumed rate of return | 7.75% | 7.75% | 7.75% |
| 5. Expected return: (2) x (4) | $85,021,022 | $86,363,080 | $87,289,839 |
| 6. Actuarial gain/(loss): (1) – (5) | $27,056,567 | $27,237,478 | $131,285,161 |

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.

**CHART 11**

**Investment Return – Valuation Value, Actuarial Value, and Market Value: 2005 – 2014***

| Year Ended June 30 | Valuation Value Investment Return: Amount | Valuation Value Investment Return: Percent | Actuarial Value Investment Return: Amount | Actuarial Value Investment Return: Percent | Market Value Investment Return: Amount | Market Value Investment Return: Percent |
|---|---|---|---|---|---|---|
| 2005 | $28,180,689 | 4.25% | $28,310,592 | 4.25% | $51,008,652 | 7.94% |
| 2006 | 45,252,329 | 6.52% | 45,449,540 | 6.52% | 66,439,000 | 9.55% |
| 2007 | 84,055,262 | 11.33% | 84,360,520 | 11.31% | 144,934,000 | 18.95% |
| 2008 | 71,124,427 | 8.59% | 72,404,538 | 8.69% | (76,707,000) | (8.40)% |
| 2009 | (40,442,084) | (4.49)% | (40,593,156) | (4.47)% | (171,905,000) | (20.47)% |
| 2010 | 51,167,488 | 5.93% | 51,966,871 | 5.96% | 95,737,000 | 14.27% |
| 2011 | 33,223,487 | 3.62% | 33,642,654 | 3.62% | 191,970,000 | 24.85% |
| 2012 | 64,558,352 | 6.75% | 65,488,807 | 6.76% | 15,202,000 | 1.57% |
| 2013 | 75,506,213 | 7.40% | 76,545,489 | 7.39% | 137,318,000 | 13.91% |
| 2014 | 112,077,589 | 10.22% | 113,600,558 | 10.19% | 218,575,000 | 19.41% |
| Five-Year Average Return | | 6.76% | | 6.76% | | 14.53% |
| Ten-Year Average Return | | 5.93% | | 5.94% | | 7.28% |

* *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.*

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan (and HIB plan) costs.

*This chart illustrates how this leveling effect has actually worked over the years 2005 - 2014.*

**CHART 12**

**Market Value, Actuarial Value, and Valuation Value of Assets: Rates of Return for Years Ended June 30, 2005 – 2014***


* *Market Value and Actuarial Value of Assets are for pension and HIB benefits. Valuation Value of Assets are for pension benefits only.*

**Other 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 the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended June 30, 2014 amounted to $649,986, which is 0.04% of the actuarial accrued liability.

**D. EMPLOYER AND MEMBER CONTRIBUTIONS**

Employer contributions consist of two components:

*Normal Cost*

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.

*Contribution to the Unfunded Actuarial Accrued Liability (UAAL)*

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 3.50% (i.e., 3.00% inflation plus 0.50% across-the-board salary increase).

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 are amortized over separate decreasing 20-year periods.

The recommended employer contribution rates are provided on Chart 13.

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:

| | Member Rate | | |
|---|---|---|---|
| **Effective Date** | **(a) Total** | **(b) HIB Plan** | **(c) = (a) – (b) Pension Plan** |
| April 17, 2006* | 6.83%* | 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% |

* *Pursuant to the Ordinance.*

Based on the rates shown above, we have determined the average member rates used in calculating the employer's Normal Cost rate to be as follows:

| | Average Member Rate Used in Calculating the Employer's Normal Cost Rate | | |
|---|---|---|---|
| **Fiscal Year** | **(a) Total** | **(b) HIB Plan** | **(c) = (a) – (b) Pension Plan** |
| 2014/2015 | 7.93%** | 0.09% | 7.84% |
| 2015/2016 | 8.41%** | 0.09% | 8.32% |
| 2016/2017 & Beyond | 8.75%** | 0.09% | 8.66% |

** *Based on 80% of the rate in effect at the beginning of the fiscal year and 20% of the rate in effect at the end of the fiscal year.*

*2013 Tier Members*

Pursuant to Section 7522.30(a) of the Government Code, 2013 Tier members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the employee rates be rounded to the nearest one quarter of one percent and requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). We have also compared the total Normal Cost rates between the current valuation and the initial CalPEPRA valuation so that a rate increase (or decrease) of less than 1% of payroll would result in no change to the member's rate (reference: Section 7522.30(d)). In particular, the total Normal Cost rate of 17.56% was determined in the first CalPEPRA valuation and has been used since then to determine the 50% of the Normal Cost paid by the employees because the change in the total Normal Cost has been less than 1% of payroll.

Accumulation for all members includes crediting of interest at the assumed investment earnings rate. The member contribution rates are provided on Chart 13.

**CHART 13**

**Recommended Contribution Rates (% of payroll; payable at the end of each pay period)**

| | June 30, 2014 Valuation | | June 30, 2013 Valuation | |
|---|---|---|---|---|
| | Rate | Estimated Annual Amount[1] | Rate | Estimated Annual Amount[1] |
| **1955/1980 Plan** | | | | |
| Total Normal Cost | 23.18% | $36,523,093 | 22.86% | $36,018,891 |
| Expected Employee Contributions | -8.32%[2] | -13,109,238 | -7.84%[3] | -12,352,936 |
| Employer Normal Cost | 14.86% | $23,413,855 | 15.02% | $23,665,955 |
| UAAL | 22.85% | 36,003,135 | 23.59% | 37,169,101 |
| Total Employer Contribution | 37.71% | $59,416,990 | 38.61% | $60,835,056 |
| **2013 Tier** | | | | |
| Total Normal Cost | 16.82% | $1,620,256 | 17.40% | $1,676,127 |
| Expected Employee Contributions | -8.75% | -842,880 | -8.75% | -842,880 |
| Employer Normal Cost | 8.07% | $777,376 | 8.65% | $833,247 |
| UAAL | 22.85% | 2,201,121 | 23.59% | 2,272,405 |
| Total Employer Contribution | 30.92% | $2,978,497 | 32.24% | $3,105,652 |
| **Combined** | | | | |
| Total Normal Cost | 22.81% | $38,143,349 | 22.54% | $37,695,018 |
| Expected Employee Contributions | -8.34% | -13,952,118 | -7.89% | -13,195,816 |
| Employer Normal Cost | 14.47% | $24,191,231 | 14.65% | $24,499,202 |
| UAAL | 22.85% | 38,204,256 | 23.59% | 39,441,506 |
| Total Employer Contribution | 37.32% | $62,395,487 | 38.24% | $63,940,708 |

(1) *Amounts are based on the following June 30, 2014 projected annual payroll:*

| | |
|---|---|
| *1955/1980 Plan* | *$157,562,955* |
| *2013 Tier* | *9,632,915* |
| *Combined* | *$167,195,870* |

(2) *The rate of 8.32% payable during fiscal year 2015/2016 is calculated by taking 80% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%) and 20% of the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.*

(3) *The rate of 7.84% payable during fiscal year 2014/2015 is calculated by taking 80% of the total employee rate payable beginning April 21, 2014 (i.e., 7.83%) and 20% of the total employee rate payable beginning April 20, 2015 (i.e., 8.33%), less the HIB employee contribution rate of 0.09%.*

The employer contribution rates as of June 30, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses, and changes in the actuarial assumptions.

**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 chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.*

**CHART 14**

**Reconciliation of Recommended Employer Contribution Rate from June 30, 2013 to June 30, 2014**

| | Contribution Rate | Estimated Amount* |
|---|---|---|
| Recommended Contribution Rate as of June 30, 2013 | 38.24% | $63,940,708 |
| Effect of actuarial experience during fiscal 2013/2014 | | |
| 1. Effect of investment gain | (1.17)% | $(1,956,192) |
| 2. Effect of one-year lag in implementing rates | 0.01% | 16,720 |
| 3. Effect of lower than expected salary increases | (0.21)% | (351,111) |
| 4. Effect of higher than expected growth in total payroll | (0.31)% | (518,307) |
| 5. Effect of lower than expected retiree COLA increase | (0.21)% | (351,111) |
| 6. Effect of other experience losses | 0.42% | 695,202 |
| 7. Effect of increase in the employee contribution rates for the 1955/1980 Plan members | (0.45)% | (752,381) |
| 8. Effect of change in actuarial assumptions | 1.00% | 1,671,959 |
| Subtotal | (0.92)% | $(1,545,221) |
| Recommended Contribution Rate as of June 30, 2014 | 37.32% | $62,395,487 |

* *Based on June 30, 2014 projected annual payroll of $167,195,870.*

The member contribution rates as of June 30, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses, and changes in the actuarial assumptions.

**Reconciliation of Recommended Employee Contribution**

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

*The chart reconciles the employee contribution from the prior valuation to the amount determined in this valuation.*

**CHART 15**

**Reconciliation of Recommended Employee Contribution Rate from June 30, 2013 to June 30, 2014**

| | Contribution Rate | Estimated Amount* |
|---|---|---|
| Average Contribution Rate as of June 30, 2013 | 7.89%** | $13,195,816 |
| 1. Effect of increase in the employee contribution rates for the 1955/1980 Plan members | 0.45% | 756,302 |
| Average Contribution Rate as of June 30, 2014 | 8.34% | $13,952,118 |

* *Based on June 30, 2014 projected annual payroll of $167,195,870.*

** *7.89% is based on a weighted average of the 7.84% rate for members in the 1955/1980 Plan and the 8.75% rate for members in the 2013 Tier developed in the June 30, 2013 valuation.*

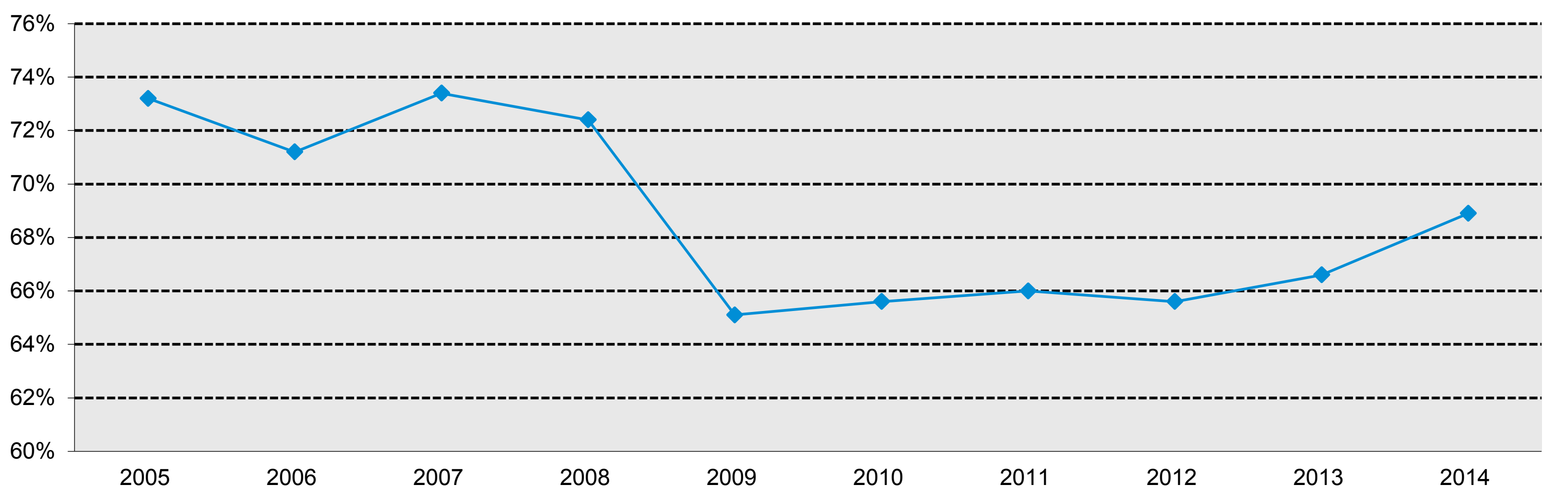
**E. FUNDED RATIO**

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

The chart below depicts a history of the funded ratios for this plan.

**CHART 16**

**Funded Ratio for Plan Years Ending June 30, 2005 - 2014**



### F. 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 measure since it is based on the current level of assets.

For EBMUD, the current AVR is about 7.9. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 7.9% of one-year's payroll. Since EBMUD amortizes actuarial gains and losses over a 20-year period, 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. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

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.

For EBMUD, the current LVR is about 10.5. This is about 33% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

*This chart shows how the asset and liability volatility ratios have varied over time.*

**CHART 17**

**Volatility Ratios for Years Ended June 30, 2009 – 2014**

| Year Ended June 30 | Asset Volatility Ratio | Liability Volatility Ratio |
|---|---|---|
| 2009 | 4.1 | 8.2 |
| 2010 | 4.6 | 8.5 |
| 2011 | 6.0 | 9.1 |
| 2012 | 6.1 | 9.8 |
| 2013 | 7.0 | 10.3 |
| 2014 | 7.9 | 10.5 |

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

## EXHIBIT A

### Table of Plan Coverage

### i. All

| Category | Year Ended June 30 2014 | Year Ended June 30 2013 | Change From Prior Year |
|---|---|---|---|
| **Active participants in valuation:** | | | |
| Number | 1,715 | 1,666 | 2.9% |
| Average age | 49.3 | 49.7 | N/A |
| Average service | 14.3 | 14.9 | N/A |
| Projected total payroll | $167,195,870 | $159,246,357 | 5.0% |
| Projected average payroll | $97,490 | $95,586 | 2.0% |
| Account balances | $151,772,724 | $142,761,770 | 6.3% |
| Total active vested participants | 1,366 | 1,379 | (0.9)% |
| **Vested terminated participants*:** | | | |
| Number | 237 | 232 | 2.2% |
| Average age | 49.9 | 49.8 | N/A |
| **Retired participants:** | | | |
| Number in pay status | 1,174 | 1,121 | 4.7% |
| Average age | 69.3 | 69.3 | N/A |
| Average monthly benefit | $4,704 | $4,519 | 4.1% |
| **Disabled participants:** | | | |
| Number in pay status | 58 | 60 | (3.3)% |
| Average age | 64.5 | 63.7 | N/A |
| Average monthly benefit | $2,042 | $1,985 | 2.9% |
| **Beneficiaries:** | | | |
| Number in pay status | 265 | 259 | 2.3% |
| Average age | 75.9 | 76.0 | N/A |
| Average monthly benefit | $2,345 | $2,260 | 3.8% |

** Includes terminated participants due a refund of employee contributions only.*

**EXHIBIT A**

**Table of Plan Coverage**

**ii. 1955/1980 Plan**

| Category | Year Ended June 30 2014 | 2013 | Change From Prior Year |
|---|---|---|---|
| **Active participants in valuation:** | | | |
| Number | 1,585 | 1,645 | (3.6)% |
| Average age | 50.3 | 49.9 | N/A |
| Average service | 15.5 | 15.1 | N/A |
| Projected total payroll | $157,562,955 | $157,851,076 | (0.2)% |
| Projected average payroll | $99,409 | $95,958 | 3.6% |
| Account balances | $151,306,194 | $142,748,194 | 6.0% |
| Total active vested participants | 1,366 | 1,379 | (0.9)% |
| **Vested terminated participants*:** | | | |
| Number | 230 | 231 | (0.4)% |
| Average age | 50.1 | 49.8 | N/A |
| **Retired participants:** | | | |
| Number in pay status | 1,174 | 1,121 | 4.7% |
| Average age | 69.3 | 69.3 | N/A |
| Average monthly benefit | $4,704 | $4,519 | 4.1% |
| **Disabled participants:** | | | |
| Number in pay status | 58 | 60 | (3.3)% |
| Average age | 64.5 | 63.7 | N/A |
| Average monthly benefit | $2,042 | $1,985 | 2.9% |
| **Beneficiaries:** | | | |
| Number in pay status | 265 | 259 | 2.3% |
| Average age | 75.9 | 76.0 | N/A |
| Average monthly benefit | $2,345 | $2,260 | 3.8% |

** Includes terminated participants due a refund of employee contributions only.*

**EXHIBIT A**

**Table of Plan Coverage**

**iii. 2013 Tier**

| Category | Year Ended June 30 2014 | Year Ended June 30 2013 | Change From Prior Year |
|---|---|---|---|
| **Active participants in valuation:** | | | |
| Number | 130 | 21 | 519.0% |
| Average age | 37.6 | 38.8 | N/A |
| Average service | 0.7 | 0.2 | N/A |
| Projected total payroll | $9,632,915 | $1,395,281 | 590.4% |
| Projected average payroll | $74,099 | $66,442 | 11.5% |
| Account balances | $466,530 | $13,576 | 3336.4% |
| Total active vested participants | 0 | 0 | N/A |
| **Vested terminated participants*:** | | | |
| Number | 7 | 1 | 600.0% |
| Average age | 43.4 | 48.0 | N/A |
| **Retired participants:** | | | |
| 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 |
| **Disabled participants:** | | | |
| 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 |

** Includes terminated participants due a refund of employee contributions only.*

**EXHIBIT B**

**Participants in Active Service as of June 30, 2014**
**By Age, Years of Service, and Average Projected Payroll**

**i. 1955/1980 Plan**

| | | Years of Service | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 7 | 5 | 2 | - - | - - | - - | - - | - - | - - | - - |
| | $74,133 | $72,878 | $77,271 | - - | - - | - - | - - | - - | - - | - - |
| 25 - 29 | 30 | 21 | 9 | - - | - - | - - | - - | - - | - - | - - |
| | 80,005 | 78,289 | 84,007 | - - | - - | - - | - - | - - | - - | - - |
| 30 - 34 | 94 | 43 | 45 | 6 | - - | - - | - - | - - | - - | - - |
| | 90,424 | 86,275 | 93,629 | $96,125 | - - | - - | - - | - - | - - | - - |
| 35 - 39 | 126 | 37 | 56 | 30 | 3 | - - | - - | - - | - - | - - |
| | 96,206 | 91,146 | 96,816 | 99,905 | $110,242 | - - | - - | - - | - - | - - |
| 40 - 44 | 167 | 28 | 58 | 44 | 30 | 7 | - - | - - | - - | - - |
| | 97,573 | 88,490 | 98,863 | 97,240 | 102,113 | $105,866 | - - | - - | - - | - - |
| 45 - 49 | 265 | 29 | 71 | 41 | 57 | 44 | 22 | 1 | - - | - - |
| | 99,442 | 95,505 | 98,488 | 96,650 | 94,618 | 104,103 | $115,902 | $103,599 | - - | - - |
| 50 - 54 | 365 | 28 | 54 | 47 | 80 | 80 | 51 | 22 | 3 | - - |
| | 104,671 | 104,231 | 103,450 | 98,796 | 103,130 | 105,655 | 109,376 | 112,155 | $102,775 | - - |
| 55 - 59 | 292 | 19 | 34 | 32 | 39 | 58 | 70 | 34 | 6 | - - |
| | 103,028 | 99,772 | 98,206 | 90,005 | 99,962 | 107,592 | 106,534 | 108,130 | 116,117 | - - |
| 60 - 64 | 179 | 8 | 19 | 15 | 35 | 35 | 34 | 22 | 10 | 1 |
| | 98,422 | 90,121 | 98,504 | 89,768 | 93,815 | 103,890 | 101,626 | 102,480 | 94,281 | $106,219 |
| 65 - 69 | 51 | 1 | 8 | 7 | 13 | 8 | 9 | 4 | 1 | - - |
| | 94,641 | 116,121 | 84,214 | 85,724 | 106,526 | 82,285 | 100,203 | 100,065 | 91,567 | - - |
| 70 & over | 9 | - - | - - | - - | 2 | 4 | 2 | - - | - - | 1 |
| | 71,313 | - - | - - | - - | 14,125 | 91,565 | 85,142 | - - | - - | 77,026 |
| Total | 1,585 | 219 | 356 | 222 | 259 | 236 | 188 | 83 | 20 | 2 |
| | $99,409 | $91,275 | $97,592 | $95,879 | $98,969 | $104,555 | $106,983 | $107,256 | $101,970 | $91,623 |

## EXHIBIT B

### Participants in Active Service as of June 30, 2014
### By Age, Years of Service, and Average Projected Payroll

### ii. 2013 Tier

| | | Years of Service | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 11 | 11 | - - | - - | - - | - - | - - | - - | - - | - - |
| | $62,960 | $62,960 | - - | - - | - - | - - | - - | - - | - - | - - |
| 25 - 29 | 20 | 20 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 71,705 | 71,705 | - - | - - | - - | - - | - - | - - | - - | - - |
| 30 - 34 | 26 | 26 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 75,245 | 75,245 | - - | - - | - - | - - | - - | - - | - - | - - |
| 35 - 39 | 25 | 25 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 76,554 | 76,554 | - - | - - | - - | - - | - - | - - | - - | - - |
| 40 - 44 | 19 | 19 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 72,969 | 72,969 | - - | - - | - - | - - | - - | - - | - - | - - |
| 45 - 49 | 14 | 14 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 82,513 | 82,513 | - - | - - | - - | - - | - - | - - | - - | - - |
| 50 - 54 | 9 | 9 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 71,394 | 71,394 | - - | - - | - - | - - | - - | - - | - - | - - |
| 55 - 59 | 5 | 5 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 79,460 | 79,460 | - - | - - | - - | - - | - - | - - | - - | - - |
| 60 - 64 | 1 | 1 | - - | - - | - - | - - | - - | - - | - - | - - |
| | 54,617 | 54,617 | - - | - - | - - | - - | - - | - - | - - | - - |
| 65 - 69 | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| 70 & over | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| Total | 130 | 130 | - - | - - | - - | - - | - - | - - | - - | - - |
| | $74,099 | $74,099 | - - | - - | - - | - - | - - | - - | - - | - - |

**EXHIBIT C**

**Reconciliation of Participant Data**

| | Active Participants | Vested Former Participants[1] | Disableds | Retired Participants | Beneficiaries | Total |
|---|---|---|---|---|---|---|
| Number as of June 30, 2013 | 1,666 | 232 | 60 | 1,121 | 259 | 3,338 |
| New participants | 136 | 0 | 0 | 0 | 0 | 136 |
| Terminations – with vested rights | (17) | 17 | 0 | 0 | 0 | 0 |
| Refund of contributions | (2) | (2) | 0 | 0 | 0 | (4) |
| Retirements | (71) | (10) | 0 | 81 | 0 | 0 |
| New disabilities | 0 | 0 | 0 | 0 | 0 | 0 |
| Return to work | 5 | (5) | 0 | 0 | 0 | 0 |
| Died with or without beneficiary | (2) | 0 | (2) | (28) | 6[2] | (26) |
| Data adjustments | 0 | 5[3] | 0 | 0 | 0 | 5 |
| Number as of June 30, 2014 | 1,715 | 237 | 58 | 1,174 | 265 | 3,449 |

[1] *Includes terminated participants due a refund of employee contributions only.*

[2] *This is the net increase in the number of beneficiaries after subtracting the number of beneficiaries who died during the year.*

[3] *Members who were hired and terminated employment during fiscal year 2013/2014.*

## EXHIBIT D

### Summary Statement of Income and Expenses on an Actuarial Value Basis for All Pension Plan and HIB Plan Assets

| | Year Ended June 30, 2014 | | Year Ended June 30, 2013 | |
|---|---|---|---|---|
| **Contribution income:** | | | | |
| Employer contributions | $70,117,000 | | $61,567,000 | |
| Employee contributions | 12,133,000 | | 10,566,000 | |
| Net contribution income | | $82,250,000 | | $72,133,000 |
| **Investment income:** | | | | |
| Interest, dividends and other income | $23,767,000 | | $21,286,000 | |
| Recognition of capital appreciation | 94,593,558 | | 60,327,489 | |
| Less investment and administrative fees | (4,760,000) | | (5,068,000) | |
| Net investment income | | $113,600,558 | | $76,545,489 |
| **Total income available for benefits** | | $195,850,558 | | $148,678,489 |
| **Less benefit payments:** | | | | |
| Benefits paid | $(78,149,000) | | $(71,760,000) | |
| Refund of contributions | (116,000) | | (335,000) | |
| Net benefit payments | | $(78,265,000) | | $(72,095,000) |
| **Change in amount available for future benefits** | | $117,585,558 | | $76,583,489 |

## EXHIBIT E

### Summary Statement of Assets for Pension and HIB Plans

| | Year Ended June 30, 2014 | | Year Ended June 30, 2013 | |
|---|---|---|---|---|
| **Cash equivalents** | | $36,658,000 | | $34,397,000 |
| **Accounts receivable:** | | | | |
| Brokers, securities sold | $2,945,000 | | $12,127,000 | |
| Employer and employee contributions | 3,501,000 | | 2,973,000 | |
| Interest and dividends | 2,074,000 | | 2,278,000 | |
| Total accounts receivable | | $8,520,000 | | $17,378,000 |
| **Investments:** | | | | |
| Equities | $987,635,000 | | $812,806,000 | |
| Fixed income investments | 251,109,000 | | 230,063,000 | |
| Real estate | 68,194,000 | | 53,222,000 | |
| Securities lending collateral | 129,511,000 | | 101,523,000 | |
| Other assets | 477,000 | | 459,000 | |
| Total investments at market value | | $1,436,926,000 | | $1,198,073,000 |
| **Total assets** | | $1,482,104,000 | | $1,249,848,000 |
| **Less accounts payable:** | | | | |
| Accounts payable and accrued expenses | $(1,507,000) | | $(1,472,000) | |
| Payables to brokers, securities purchased | (4,198,000) | | (22,525,000) | |
| Securities lending collateral | (129,511,000) | | (101,523,000) | |
| Total accounts payable | | $(135,216,000) | | $(125,520,000) |
| **Net assets at market value** | | $1,346,888,000 | | $1,124,328,000 |
| **Net assets at actuarial value** | | $1,229,955,379 | | $1,112,369,821 |
| **Net assets at valuation value (pension plan only)** | | $1,210,321,029 | | $1,095,847,440 |

**EXHIBIT F**

**Development of the Fund Through June 30, 2014 for All Pension Plan and HIB Plan Assets**

| Year Ended June 30 | Employer Contributions | Employee Contributions | Net Investment Return* | Benefit Payments | Actuarial Value of Assets at End of Year |
|---|---|---|---|---|---|
| 2006 | $35,635,000 | $9,426,000 | $45,449,540 | $42,634,000 | $744,230,098 |
| 2007 | 39,332,000 | 9,891,000 | 84,360,520 | 46,508,000 | 831,305,618 |
| 2008 | 44,603,000 | 10,394,000 | 72,404,538 | 50,780,000 | 907,927,156 |
| 2009 | 45,803,000 | 10,740,000 | (40,593,156) | 54,502,000 | 869,375,000 |
| 2010 | 51,756,000 | 10,918,000 | 51,966,871 | 58,109,000 | 925,906,871 |
| 2011 | 58,481,000 | 10,850,000 | 33,642,654 | 62,114,000 | 966,766,525 |
| 2012 | 59,651,000 | 10,723,000 | 65,488,807 | 66,843,000 | 1,035,786,332 |
| 2013 | 61,567,000 | 10,566,000 | 76,545,489 | 72,095,000 | 1,112,369,821 |
| 2014 | 70,117,000 | 12,133,000 | 113,600,558 | 78,265,000 | 1,229,955,379 |

* *Net of investment fees and administrative expenses.*

**EXHIBIT G**

**Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2014**

| | | |
|---|---|---|
| 1. Unfunded actuarial accrued liability at beginning of year | | $550,686,687 |
| 2. Normal cost at beginning of year | | 34,987,129 |
| 3. Actual employer and member contributions | | (73,628,000) |
| 4. Interest | | |
| (a) For whole year on (1) + (2) | $45,389,721 | |
| (b) For half year on (3) | (2,853,085) | |
| (c) Total interest | | $42,536,636 |
| 5. Expected unfunded actuarial accrued liability | | $554,582,452 |
| 6. Changes due to:* | | |
| (a) Gain from investments | $(27,056,567) | |
| (b) Gain on salaries lower than expected | (4,779,553) | |
| (c) Gain from less COLA benefits granted than anticipated | (4,782,581) | |
| (d) Loss from all other sources** | 10,000,571 | |
| (e) Loss from change in actuarial assumptions | 18,421,049 | |
| (f) Total changes | | $(8,197,081) |
| 7. Unfunded actuarial accrued liability at end of year | | $546,385,371 |

* *Excludes $211,549 loss from contributions less than anticipated due to one-year delay in implementing the higher contribution rate calculated in the June 30, 2013 valuation. That loss is already included in the development of item 5.*

** *Due to a mortality loss from retired members (about $3.2 M) and larger than expected liabilities for new retirees from active service (about $8.7 M), offset somewhat by other actuarial gains (about $1.9 M).*

*Note: The "net loss from other experience" of $438,437 from Section 2, Chart 9 is equal to the sum of items 6(b) through 6(d).*

**EXHIBIT H**

**Table of Amortization Bases**

| Type* | Date Established | Initial Years | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment* |
|---|---|---|---|---|---|---|
| Experience Gain | 6/30/2000 | 30 | $(10,871,830) | $(12,633,112) | 16 | $(1,033,443) |
| Change in Assumptions | 6/30/2000 | 30 | 8,629,891 | 10,027,972 | 16 | 820,332 |
| Plan Amendments | 6/30/2000 | 30 | 13,607,265 | 15,811,700 | 16 | 1,293,466 |
| 3.5% COLA Assumption | 6/30/2000 | 30 | 27,057,441 | 31,440,863 | 16 | 2,571,999 |
| Experience Loss | 6/30/2001 | 30 | 2,292,281 | 2,673,308 | 17 | 209,352 |
| Experience Loss | 6/30/2002 | 30 | 26,232,251 | 30,601,432 | 18 | 2,301,847 |
| Plan Amendments | 6/30/2002 | 30 | 5,111,914 | 5,963,341 | 18 | 448,564 |
| Experience Loss | 6/30/2003 | 30 | 43,692,270 | 50,833,457 | 19 | 3,683,685 |
| Plan Amendments | 6/30/2003 | 30 | 67,138,578 | 78,111,891 | 19 | 5,660,438 |
| Experience Loss | 6/30/2004 | 30 | 32,731,232 | 37,878,934 | 20 | 2,651,445 |
| New Assumption / Domestic Partners | 6/30/2004 | 30 | (9,812,646) | (11,355,901) | 20 | (794,889) |
| Experience Loss | 6/30/2005 | 30 | 26,910,233 | 30,903,821 | 21 | 2,094,526 |
| Remove Limit Pension Base | 6/30/2005 | 30 | 27,315,928 | 31,227,149 | 21 | 2,116,439 |
| Experience Loss | 6/30/2006 | 30 | 14,160,133 | 16,102,433 | 22 | 1,058,983 |
| Experience Gain | 6/30/2007 | 30 | (3,098,126) | (3,481,848) | 23 | (222,628) |
| Experience Gain | 6/30/2008 | 30 | (7,800,585) | (8,648,855) | 24 | (538,607) |
| Change in Assumptions | 6/30/2008 | 30 | 51,413,374 | 57,004,298 | 24 | 3,549,938 |
| Experience Loss | 6/30/2009 | 30 | 114,894,458 | 125,473,439 | 25 | 7,622,779 |
| Experience Loss | 6/30/2010 | 30 | 3,039,098 | 3,264,211 | 26 | 193,746 |
| Change in Assumptions | 6/30/2010 | 30 | 8,098,499 | 8,698,376 | 26 | 516,290 |
| Experience Loss | 6/30/2011 | 30 | 4,428,038 | 4,674,660 | 27 | 271,452 |
| Experience Gain | 6/30/2012 | 20 | (15,668,764) | (15,693,916) | 18 | (1,180,500) |
| Change in Assumptions | 6/30/2012 | 25 | 53,400,521 | 54,611,766 | 23 | 3,491,852 |
| Experience Loss | 6/30/2013 | 20 | 10,858,322 | 10,881,484 | 19 | 788,535 |
| Experience Gain | 6/30/2014 | 20 | (26,406,581) | (26,406,581) | 20 | (1,848,405) |
| Change in Assumptions | 6/30/2014 | 25 | 18,421,049 | 18,421,049 | 25 | 1,119,118 |
| Total | | | | $546,385,371 | | $36,846,314 |

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

*Note: The equivalent single amortization period is about 21 years.*

**EXHIBIT I**

**Section 415 Limitations**

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 participants 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 $210,000 for 2014 and 2015. 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 actuarial gains as they occur.

## EXHIBIT J
### Definitions of Pension Terms

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

**Assumptions or Actuarial Assumptions:** The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age; and

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Normal Cost:** The amount of contributions required to fund the benefit allocated to the current year of service.

**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:** The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

**Unfunded Actuarial Accrued Liability:** The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

**Amortization of the Unfunded Actuarial Accrued Liability:** Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

| | |
|---|---|
| **Investment Return:** | The rate of earnings of the Plan 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. |

## EXHIBIT I

### Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

| | | | |
|---|---|---|---|
| 1. | Retired participants as of the valuation date (including 265 beneficiaries in pay status) | | 1,497 |
| 2. | Participants inactive during year ended June 30, 2014 with vested rights | | 237 |
| 3. | Participants active during the year ended June 30, 2014 | | 1,715 |
| | Fully vested | 1,366 | |
| | Not vested | 349 | |

The actuarial factors as of the valuation date are as follows:

| | | | |
|---|---|---|---|
| 1. | Normal cost, beginning of year | | $36,790,940 |
| 2. | Present value of future benefits | | 2,037,717,415 |
| 3. | Present value of future normal costs | | 281,011,015 |
| 4. | Actuarial accrued liability | | |
| | Retired participants and beneficiaries | $969,653,591 | |
| | Inactive participants with vested rights | 41,114,103 | |
| | Active participants | 745,938,706 | |
| | Subtotal | | $1,756,706,400 |
| 5. | Valuation value of assets ($1,346,888,000 at market value for pension and HIB plans, as reported by the auditor, and $1,229,955,379 at actuarial value for pension and HIB plans) | | $1,210,321,029[1] |
| 6. | Unfunded actuarial accrued liability | | $546,385,371 |

(1) *Net of HIB assets.*

**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results**

| The determination of the recommended contribution at the end of each pay period is as follows: | 1955/1980 Plan | 2013 Tier | Combined |
|---|---|---|---|
| 1. Total normal cost | $36,523,093 | $1,620,256 | $38,143,349 |
| 2. Expected employee contributions | -13,109,238 | -842,880 | -13,952,118 |
| 3. Employer normal cost: (1) + (2) | $23,413,855 | $777,376 | $24,191,231 |
| 4. Payment on unfunded actuarial accrued liability | 36,003,135 | 2,201,121 | 38,204,256 |
| 5. Total recommended contribution | $59,416,990 | $2,978,497 | $62,395,487 |
| 6. Projected payroll | $157,562,955 | 9,632,915 | 167,195,870 |
| 7. Total recommended contribution as a percentage of projected payroll: (5) ÷ (6) | 37.71% | 30.92% | 37.32% |

*Note: The contribution amounts shown above are based on the recommended employer and employee contribution rates payable at the end of each pay period, multiplied by the projected payroll.*

## EXHIBIT II

### History of Employer Contributions

| Plan Year Ended June 30 | Annual Required Contributions[1],[2] | Actual Contributions | Percentage Contributed |
|---|---|---|---|
| 2005 | $27,670,000 | $27,687,000 | 100% |
| 2006 | 30,600,000 | 30,600,000 | 100% |
| 2007 | 33,698,000 | 33,698,000 | 100% |
| 2008 | 37,387,000 | 37,387,000 | 100% |
| 2009 | 39,485,000 | 39,485,000 | 100% |
| 2010 | 44,031,000 | 44,031,000 | 100% |
| 2011 | 50,987,000 | 50,987,000 | 100% |
| 2012 | 52,156,000 | 52,156,000 | 100% |
| 2013 | 53,795,000 | 53,795,000 | 100% |
| 2014 | 61,660,000 | 61,660,000 | 100% |

(1) *Annual required contributions for the year ended June 30, 2008 were based on adopted contribution rates prepared by the System's prior actuary.*

(2) *Prior to plan year ending June 30, 2014, this was the Annual Required Contribution (ARC).*

**EXHIBIT III**

**Schedule of Funding Progress**
**(Dollar Amounts in Thousands)**

| Actuarial Valuation Date | 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) |
|---|---|---|---|---|---|---|
| 06/30/2005 | $692,945 | $946,616 | $253,671 | 73.2% | $139,514 | 181.8% |
| 06/30/2006 | 740,622 | 1,039,750 | 299,128 | 71.2% | 142,373 | 210.1% |
| 06/30/2007 | 827,098 | 1,126,106 | 299,008 | 73.4% | 153,394 | 194.9% |
| 06/30/2008 | 900,917 | 1,244,993 | 344,076 | 72.4% | 158,499 | 217.1% |
| 06/30/2009 | 862,021 | 1,323,555 | 461,534 | 65.1% | 161,893 | 285.1% |
| 06/30/2010 | 915,845 | 1,396,003 | 480,158 | 65.6% | 164,085 | 292.6% |
| 06/30/2011 | 954,719 | 1,446,039 | 491,320 | 66.0% | 159,505 | 308.0% |
| 06/30/2012 | 1,021,546 | 1,556,696 | 535,150 | 65.6% | 158,847 | 336.9% |
| 06/30/2013 | 1,095,847 | 1,646,534 | 550,687 | 66.6% | 159,246 | 345.8% |
| 06/30/2014 | 1,210,321 | 1,756,706 | 546,385 | 68.9% | 167,196 | 326.8% |

## EXHIBIT IV

### Supplementary Information Required by GASB

| | |
|---|---|
| **Valuation date** | June 30, 2014 |
| **Actuarial cost method** | Entry Age Cost Method |
| **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, plan changes are amortized over separate decreasing 15-year periods; assumption changes are amortized over separate decreasing 25-year periods; and experience gains/losses are amortized over separate decreasing 20-year periods. |
| **Asset valuation method** | Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value. |
| **Actuarial assumptions**: | |
| Investment rate of return | 7.50% |
| Inflation rate | 3.00%* |
| Across the board salary increase | 0.50% |
| Projected salary increases** | Ranges from 4.00% to 9.50% based on years of service |
| Cost of living adjustments | 3.00% |
| **Plan membership:** | |
| Retired participants and beneficiaries receiving benefits | 1,497 |
| Terminated participants entitled to, but not yet receiving benefits | 237 |
| Active participants | 1,715 |
| Total | 3,449 |

* *The maximum amount of pensionable compensation that can be taken into account for 2014 of $115,064 for 2013 Tier members is also assumed to increase by 3.00% per year.*

** *Includes inflation at 3.00% plus across the board salary increase of 0.50% plus merit and promotional increases. See Exhibit V for these increases.*

**EXHIBIT V**

**Actuarial Assumptions and Actuarial Cost Method**

**Mortality Rates:**

| | |
|---|---|
| *Pre-retirement, After Service Retirement, and All Beneficiaries* | |
| Males | RP-2000 Combined Healthy Mortality Table projected with scale AA to 2016, set back one year for males |
| Females | RP-2000 Combined Healthy Mortality Table projected with scale AA to 2016, set back two years for females |
| *After Disability Retirement:* | |
| Males | RP-2000 Combined Healthy Mortality Table projected with scale AA to 2016, set forward six years for males |
| Females | RP-2000 Combined Healthy Mortality Table projected with scale AA to 2016, set forward six years for females |

The tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

**Disability Rates:**

| | Rate (%) | | | Rate (%) | |
|---|---|---|---|---|---|
| **Age** | **Male** | **Female** | **Age** | **Male** | **Female** |
| 25 | 0.000 | 0.000 | 50 | 0.256 | 0.460 |
| 30 | 0.006 | 0.030 | 55 | 0.266 | 0.560 |
| 35 | 0.016 | 0.068 | 60 | 0.288 | 0.660 |
| 40 | 0.068 | 0.212 | 65 | 0.360 | 0.760 |
| 45 | 0.190 | 0.360 | | | |

**Termination Rates:**

| Service | Rate (%) Ordinary Withdrawal* Male | Female |
|---|---|---|
| 0 | 1.75 | 2.75 |
| 1 | 1.50 | 2.50 |
| 2 | 1.25 | 2.25 |
| 3 | 1.00 | 2.00 |
| 4 | 0.50 | 1.25 |

| | Rate (%) | | | |
|---|---|---|---|---|
| | Ordinary Withdrawal** | | Vested Termination | |
| Age | Male | Female | Male | Female |
| 25 | 0.42 | 0.94 | 5.40 | 7.00 |
| 30 | 0.37 | 0.84 | 4.40 | 6.40 |
| 35 | 0.32 | 0.74 | 3.10 | 4.80 |
| 40 | 0.27 | 0.52 | 1.72 | 3.40 |
| 45 | 0.22 | 0.34 | 1.02 | 2.40 |
| 50 | 0.17 | 0.24 | 0.72 | 1.40 |
| 55 | 0.12 | 0.20 | 0.48 | 0.70 |
| 60 | 0.07 | 0.14 | 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 | 3.00 | 3.00 | 2.00 |
| 55 | 8.00 | 6.00 | 5.00 | 4.00 |
| 56 | 8.00 | 7.00 | 6.00 | 5.00 |
| 57 | 9.00 | 7.00 | 6.00 | 5.00 |
| 58 | 9.00 | 8.00 | 6.00 | 5.00 |
| 59 | 11.00 | 10.00 | 8.00 | 7.00 |
| 60 | 11.00 | 10.00 | 8.00 | 7.00 |
| 61 | 14.00 | 15.00 | 10.00 | 11.00 |
| 62 | 25.00 | 20.00 | 19.00 | 15.00 |
| 63 | 20.00 | 15.00 | 16.00 | 12.00 |
| 64 | 10.00 | 15.00 | 8.00 | 12.00 |
| 65 | 30.00 | 20.00 | 26.00 | 17.00 |
| 66 | 25.00 | 20.00 | 25.00 | 20.00 |
| 67 | 35.00 | 25.00 | 35.00 | 25.00 |
| 68 | 35.00 | 35.00 | 35.00 | 35.00 |
| 69 | 40.00 | 35.00 | 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:** | 58 |
| **Reciprocity:** | 30% of members who terminate with a vested benefit are assumed to enter a reciprocal system. For reciprocals, we assume 4.00% compensation increases per annum. |
| **Unknown Data for Participants:** | Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. |
| **Percent Married:** | The Retirement System has indicated the marital status of each member*. |
| **Age of Spouse:** | Spouses/domestic partners of male members are 3 years younger than the member. Spouses/domestic partners of female members are 3 years older than the member. |
| **Future Benefit Accruals:** | 1.0 year of service per year of employment plus 0.036 years of additional service to anticipate conversion of unused sick leave for each year of employment. As directed by EBMUD, this assumption has been applied to active members in the 1955/1980 Plan and the 2013 Tier. |
| **Net Investment Return:** | 7.50%, net of investment and administrative expenses. |
| **Interest Credited to Employee Accounts:** | 7.50% |
| **Inflation:** | 3.00%** |
| **Across the Board Salary Increases:** | 0.50% |
| **Cost of Living Increases:** | 3.00% per annum. |

* *75% of active male members and 58% of active female members were married as of June 30, 2014. Based on past practice, this is not necessarily the same as the spouse coverage assumption used in the HIB valuation. Some married members may not elect HIB spouse coverage upon retirement due to the additional cost to the member. In our next experience study, we will review the appropriateness of aligning this assumption with the spouse coverage assumption in the HIB valuation.*

** *The maximum amount of pensionable compensation that can be taken into account for 2014 of $115,064 for 2013 Tier members is also assumed to increase by 3.00% per year.*

**Salary Increases:**

**Annual Rate of Compensation Increase**

Inflation: 3.00% per year; plus across the board salary increases of 0.50% per year; plus the following merit and promotional increases based on years of service:

| Years of Service | Merit and Promotional 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 less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 30% of the market value.

| | |
|---|---|
| **Actuarial Cost Method:** | Entry Age Actuarial 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. |
| **Changes in Actuarial Assumptions:** | Based on the June 30, 2014 economic actuarial assumptions study, the following actuarial assumptions were changed. Previously, these assumptions were as follows: |
| **Reciprocity:** | 30% of members who terminate with a vested benefit are assumed to enter a reciprocal system. For reciprocals, we assume 4.25% compensation increases per annum. |
| **Net Investment Return:** | 7.75%, net of investment and administrative expenses. |
| **Interest Credited to Employee Accounts:** | 7.75% |
| **Inflation:** | 3.25%* |
| **Cost of Living Increases:** | 3.15% per annum. |

* *The maximum amount of pensionable compensation that can be taken into account for 2013 of $113,700 for 2013 Tier members is also assumed to increase by 3.25% per year.*

**Changes in Actuarial Assumptions: (continued)**

**Salary Increases:**

**Annual Rate of Compensation Increase**

Inflation: 3.25% per year; plus across the board salary increases of 0.50% per year; plus the following merit and promotional increases based on years of service:

| Years of Service | Merit and Promotional 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% |

**EXHIBIT VI**

**Summary of Plan Provisions**

This exhibit summarizes the major provisions of the EBMUD 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:** | |
| *1955/1980 Plan* | All employees who first become members before January 1, 2013. |
| *2013 Tier* | All employees who first become members on or after January 1, 2013. |
| **Final Compensation for Benefit Determination**: | |
| *1955/1980 Plan* | Highest two consecutive years of compensation earnable (FAS2). |
| *2013 Tier* | Highest thirty-six consecutive months of pensionable compensation (FAS3). |
| **Compensation Limit:** | |
| *1955/1980 Plan* | None |
| *2013 Tier* | $115,064 for 2014. |
| **Normal or Unreduced Retirement Eligibility:** | |
| *Age and Service Requirement* | |
| *1955/1980 Plan* | Age 65;<br>Age 62 with 5 years of service;<br>Age 59 with 20 years of service;<br>Age 54 with 30 years of service;<br>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. |

| | |
|---|---|
| **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 Formula: (continued)**

*1955/1980 Plan:*

| | |
|---|---|
| *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. |

*2013 Tier:*

| Retirement Age | Benefit Formula |
|---|---|
| 52 | 1.00% x FAS3 x Years of Service |
| 55 | 1.30% x FAS3 x Years of Service |
| 60 | 1.80% x FAS3 x Years of Service |
| 62 | 2.00% x FAS3 x Years of Service |
| 65 | 2.30% x FAS3 x Years of Service |
| 67 or later | 2.50% x FAS3 x Years of Service |

**Disability:**

| | |
|---|---|
| *Eligibility* | Eight years of service (not available for Directors). |
| *Benefit* | Greater of: |
| | 1.5% times Final Compensation per year of service. |
| | One-third of Final Compensation. |

**Vesting:**

| | |
|---|---|
| *Requirements* | Five years of service, must leave contributions on deposit, reciprocal service counts for vesting purposes. |

**Pre-Retirement Death Benefit:**

| | |
|---|---|
| *Eligibility* | Eligible for retirement. |
| *Benefit* | 50% of the unmodified service retirement benefit to eligible surviving spouse plus the lump sum payment of accumulated retirement contributions. |
| | OR |
| *Eligibility* | None. |
| *Benefit* | 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).

**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:

| | Member Rate | | |
|---|---|---|---|
| Effective Date | (a) Total | (b) HIB Plan | (c) = (a) – (b) Pension Plan |
| April 17, 2006* | 6.83%* | 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% |

** Pursuant to the Ordinance.*

**Member Contributions: (continued)**

*1955/1980 Plan*

Based on the rates shown above, the average member rates used in calculating the employer's Normal Cost rate are as follows:

| | Average Member Rate Used in Calculating the Employer's Normal Cost Rate | | |
|---|---|---|---|
| | (a) | (b) | (c) = (a) – (b) |
| Fiscal Year | Total | HIB Plan | Pension Plan |
| 2014/2015 | 7.93%* | 0.09% | 7.84% |
| 2015/2016 | 8.41%* | 0.09% | 8.32% |
| 2016/2017 & Beyond | 8.75%* | 0.09% | 8.66% |

** Based on 80% of the rate in effect at the beginning of the fiscal year and 20% of the rate in effect at the end of the fiscal year.*

*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.

**Cost of Living:**

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.

| | |
|---|---|
| **Cost of Living: (continued)** | 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%. |
| **Changes in Plan Provisions:** | None during July 1, 2013 to June 30, 2014. |

**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 that both can be sure the proper provisions are valued.*

5344676v3/10419.001

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

## Review of Contribution Rates and Funding Status
## June 30, 2014

Segal Consulting

100 Montgomery Street, Suite 500 San Francisco, CA 94104-4308
T 415.263.8200 F 415.263.8290 www.segalco.com

*January 7, 2015*

*Mr. Eric L. Sandler*
*Director of Finance*
*East Bay Municipal Utility District*
*375 Eleventh Street*
*Oakland, California 94607-4240*

*Dear Eric:*

*We are pleased to submit our Health Insurance Benefit Valuation as of June 30, 2014 for the prefunded $450 ($550 for a retiree with a spouse or qualified 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 disclosure purposes will be provided in a separate report.*

*This valuation is based on financial statements and census data furnished by EBMUD. The actuarial calculations were completed under the supervision of Thomas Bergman, ASA, MAAA, Enrolled Actuary. 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, FCA, ASA, MAAA, EA* | *Thomas Bergman, ASA, MAAA, EA* |
| *Vice President and Associate Actuary* | *Assistant Actuary* |

*JWL/bqb*

## SECTION 1

### VALUATION SUMMARY



## SECTION 2

### VALUATION RESULTS



## SECTION 3

### SUPPORTING EXHIBITS

## CONTRIBUTION RECOMMENDATIONS AND FUNDING STATUS

- The contribution rate recommended in the June 30, 2014 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 about the same as amortizing the entire UAAL over a period of about 18 years.
- The recommended contribution rate increased from 5.43% of payroll in the June 30, 2013 valuation to 5.49% of payroll in the June 30, 2014 valuation. This was primarily the result of the lowering investment return assumption from 7.75% to 7.50%, recommended in the Review of Economic Actuarial Assumptions for the June 30, 2014 Actuarial Valuations and adopted by the Board on September 18, 2014. We have maintained the allocation of 0.09% of the member contribution to the HIB plan used in last year's valuation.
- 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.
- For this valuation, we have provided of HIB contribution rates for each of the following:
    - For non-CalPEPRA tier ("1955/1980 Plan")
    - For CalPEPRA tier ("2013 Tier")
    - For all tiers combined.

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

| | June 30, 2014 | | June 30, 2013 | |
|---|---|---|---|---|
| **Employer Contribution Rates:** *(payable at the end of each pay period)* | Total Rate | Estimated Annual Amount[1] | Total Rate | Estimated Annual Amount[1] |
| 1955/1980 Plan | 5.51% | $8,685,000 | 5.45% | $8,587,000 |
| 2013 Tier | 5.06% | $488,000 | 5.11% | $492,000 |
| Combined | 5.49% | $9,173,000 | 5.43% | $9,079,000 |
| **Average Member Contribution Rates:** *(payable at the end of each pay period)* | Total Rate | Estimated Annual Amount[1] | Total Rate | Estimated Annual Amount[1] |
| 1955/1980 Plan | 0.09% | $141,000 | 0.09% | $141,000 |
| 2013 Tier | 0.09% | $9,000 | 0.09% | $9,000 |
| Combined | 0.09% | $150,000 | 0.09% | $150,000 |

(1) *Based on June 30, 2014 projected payroll of $167,195,870, $157,562,955 for 1955/1980 Plan members and $9,632,915 for 2013 Tier members.*

- The following table compares the valuation value of assets and liabilities for the Health Insurance Benefit as of June 30, 2014 and June 30, 2013:

| | June 30, 2014 | June 30, 2013 |
|---|---|---|
| 1. Valuation Value of Assets | $19,634,350 | $16,522,381 |
| 2. Actuarial Accrued Liabilities: | | |
| Current Recipients | $72,034,745 | $67,642,679 |
| Future Recipients | $37,822,072 | $36,732,916 |
| Total | $109,856,817 | $104,375,595 |
| 3. Liabilities minus Valuation Value of Assets (2) – (1) | $90,222,467 | $87,853,214 |
| 4. Funding Ratio (1) ÷ (2) | 17.87% | 15.83% |

## 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 43 and 45. Such information will be provided in a separate report.

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 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. 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, 2014 (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 | | | | | $1,325,387,000 |
| (b) HIB plan | | | | | 21,501,000 |
| (c) Total | | | | | $1,346,888,000 |
| 2. Calculation of deferred return: | | | | | |
| (a) Year ended June 30, 2008 | $(76,707,000) | $75,340,031 | $(152,047,031) | | |
| (b) Year ended June 30, 2009 | (171,905,000) | 69,269,846 | (241,174,846) | see footnote (1) below | |
| (c) Year ended June 30, 2010 | 95,737,000 | 55,360,181 | 40,376,819 | | |
| (d) Year ended June 30, 2011 | 191,970,000 | 61,812,840 | 130,157,160 | 25% | $368,118 |
| (e) Year ended June 30, 2012 | 15,202,000 | 77,600,360 | (62,398,360) | 40% | (24,959,344) |
| (f) Year ended June 30, 2013 | 137,318,000 | 76,491,803 | 60,826,197 | 60% | 36,495,718 |
| (g) Year ended June 30, 2014 | 218,575,000 | 87,289,839 | 131,285,161 | 80% | 105,028,129 |
| (h) Total unrecognized return* | | | | | $116,932,621 |
| 3. Preliminary actuarial value: (1c) - (2h) | | | | | $1,229,955,379 |
| 4. Adjustment to be within 30% corridor of market value | | | | | 0 |
| 5. Final actuarial value of assets for pension and HIB plans: (3) + (4) | | | | | $1,229,955,379 |
| 6. Actuarial value as a percentage of market value: (5) ÷ (1c) | | | | | 91.3%. |
| 7. Valuation value of HIB assets: (1b) ÷ (1c) x (5) | | | | | $19,634,350 |

(1) *Based on action taken by the Board in 2012, the total deferred gain of $1,472,475 through June 30, 2011 as of that valuation has been recognized in four level amounts, with one year of recognition remaining after the June 30, 2014 valuation.*

* *The amount of deferred return that will be recognized in each subsequent valuation is as follows (amounts may not total exactly due to rounding):*

| | |
|---|---|
| *6/30/2015* | *$26,310,719* |
| *6/30/2016* | *25,942,600* |
| *6/30/2017* | *38,422,272* |
| *6/30/2018* | *26,257,032* |
| *Total* | *$116,932,621* |

## C. FUNDING RATIO

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

1. The valuation value of HIB assets, which equals $19,634,350 as of June 30, 2014;
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, 2014 and June 30, 2013:

| | June 30, 2014 | June 30, 2013 |
|---|---|---|
| 1. Valuation Value of Assets | $19,634,350 | $16,522,381 |
| 2. Actuarial Accrued Liabilities: | | |
| Current Recipients | $72,034,745 | $67,642,679 |
| Future Recipients | $37,822,072 | $36,732,916 |
| Total | $109,856,817 | $104,375,595 |
| 3. Liabilities minus Valuation Value of Assets (2) – (1) | $90,222,467 | $87,853,214 |
| 4. Funding Ratio (1) ÷ (2) | 17.87% | 15.83% |

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 5.49% of payroll for this year's valuation compared to 5.43% 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, 2014 | | | June 30, 2013 | | |
|---|---|---|---|---|---|---|
| | 1955/1980 Plan | 2013 Tier | Combined | 1955/1980 Plan | 2013 Tier | Combined |
| 1. Total Normal Cost | 1.31% | 0.86% | 1.29% | 1.30% | 0.96% | 1.28% |
| 2. Expected employee contributions | -0.09% | -0.09% | -0.09% | -0.09% | -0.09% | -0.09% |
| 3. Employer normal cost: (1) + (2) | 1.22% | 0.77% | 1.20% | 1.21% | 0.87% | 1.19% |
| 4. Unfunded/(overfunded) actuarial accrued liability | 4.29% | 4.29% | 4.29% | 4.24% | 4.24% | 4.24% |
| 5. Total recommended contribution, end of each pay period | 5.51% | 5.06% | 5.49% | 5.45% | 5.11% | 5.43% |

## EXHIBIT I
### Table of Amortization Bases

| 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 | $17,745,796 | 13 | $1,696,674 |
| Combined Base | 6/30/1998 | 30 | (195,000) | (222,296) | 14 | (20,081) |
| Combined Base | 6/30/1999 | 30 | 6,467,754 | 7,460,098 | 15 | 639,908 |
| Combined Base | 6/30/2000 | 30 | 5,543,694 | 6,441,792 | 16 | 526,967 |
| Combined Base | 6/30/2001 | 30 | 794,097 | 926,093 | 17 | 72,524 |
| Combined Base | 6/30/2002 | 30 | 18,413,242 | 21,480,109 | 18 | 1,615,739 |
| Combined Base | 6/30/2003 | 30 | 6,628,441 | 7,711,811 | 19 | 558,842 |
| Combined Base | 6/30/2004 | 30 | 1,942,176 | 2,304,021 | 20 | 161,277 |
| Combined Base | 6/30/2005 | 30 | 8,019,739 | 9,014,085 | 21 | 610,935 |
| Combined Base | 6/30/2006 | 30 | (1,769,952) | (2,012,728) | 22 | (132,368) |
| Experience Loss | 6/30/2007 | 30 | 2,878,105 | 3,234,577 | 23 | 206,817 |
| Combined Base | 6/30/2008 | 30 | 12,125,015 | 13,443,544 | 24 | 837,196 |
| Combined Base | 6/30/2009 | 30 | (1,240,538) | (1,354,761) | 25 | (82,305) |
| Combined Base | 6/30/2010 | 30 | 463,026 | 497,323 | 26 | 29,518 |
| Combined Base | 6/30/2011 | 30 | (60,151) | (63,501) | 27 | (3,687) |
| Experience Gain | 6/30/2012 | 20 | (1,251,821) | (1,253,831) | 18 | (94,313) |
| Assumption Changes | 6/30/2012 | 25 | 3,374,832 | 3,451,381 | 23 | 220,680 |
| Experience Gain | 6/30/2013 | 20 | (1,155,658) | (1,158,123) | 19 | (83,924) |
| Experience Loss | 6/30/2014 | 20 | 21,287 | 21,287 | 20 | 1,490 |
| Assumption Changes | 6/30/2014 | 25 | 2,555,790 | 2,555,790 | 25 | 155,270 |
| **Total** | | | | $90,222,467 | | $6,917,159 |

* *Level percentage of payroll*

Note: The equivalent single amortization period is about 18 years.

## EXHIBIT II
## Actuarial Assumptions/Methods

**Mortality Rates:**

*Pre-retirement and After Service Retirement:* RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set back one year for males

RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set back two years for females

*After Disability Retirement:* RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set forward six years for males

RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set forward six years for females

The tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

**Disability Rates:**

| | Rate (%) | |
|---|---|---|
| **Age** | **Male** | **Female** |
| 25 | 0.000 | 0.000 |
| 30 | 0.006 | 0.030 |
| 35 | 0.016 | 0.068 |
| 40 | 0.068 | 0.212 |
| 45 | 0.190 | 0.360 |
| 50 | 0.256 | 0.460 |
| 55 | 0.266 | 0.560 |
| 60 | 0.288 | 0.660 |
| 65 | 0.360 | 0.760 |

**Termination Rates:**

| | Rate (%) | |
|---|---|---|
| | Ordinary Withdrawal* | |
| Service | Male | Female |
| 0 | 1.75 | 2.75 |
| 1 | 1.50 | 2.50 |
| 2 | 1.25 | 2.25 |
| 3 | 1.00 | 2.00 |
| 4 | 0.50 | 1.25 |

| | Rate (%) | | | |
|---|---|---|---|---|
| | Ordinary Withdrawal** | | Vested Termination | |
| Age | Male | Female | Male | Female |
| 25 | 0.42 | 0.94 | 5.40 | 7.00 |
| 30 | 0.37 | 0.84 | 4.40 | 6.40 |
| 35 | 0.32 | 0.74 | 3.10 | 4.80 |
| 40 | 0.27 | 0.52 | 1.72 | 3.40 |
| 45 | 0.22 | 0.34 | 1.02 | 2.40 |
| 50 | 0.17 | 0.24 | 0.72 | 1.40 |
| 55 | 0.12 | 0.20 | 0.48 | 0.70 |
| 60 | 0.07 | 0.14 | 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 | 3.00 | 3.00 | 2.00 |
| 55 | 8.00 | 6.00 | 5.00 | 4.00 |
| 56 | 8.00 | 7.00 | 6.00 | 5.00 |
| 57 | 9.00 | 7.00 | 6.00 | 5.00 |
| 58 | 9.00 | 8.00 | 6.00 | 5.00 |
| 59 | 11.00 | 10.00 | 8.00 | 7.00 |
| 60 | 11.00 | 10.00 | 8.00 | 7.00 |
| 61 | 14.00 | 15.00 | 10.00 | 11.00 |
| 62 | 25.00 | 20.00 | 19.00 | 15.00 |
| 63 | 20.00 | 15.00 | 16.00 | 12.00 |
| 64 | 10.00 | 15.00 | 8.00 | 12.00 |
| 65 | 30.00 | 20.00 | 26.00 | 17.00 |
| 66 | 25.00 | 20.00 | 25.00 | 20.00 |
| 67 | 35.00 | 25.00 | 35.00 | 25.00 |
| 68 | 35.00 | 35.00 | 35.00 | 35.00 |
| 69 | 40.00 | 35.00 | 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:** | 58 |
| **Unknown Data for Participants:** | Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. |
| **Spouse Coverage:** | 80% of males and 50% of females are assumed to elect spouse HIB coverage at retirement*. For current retirees, we relied upon the coverage indicated in the data. |
| **Age of Spouse:** | Spouses/domestic partners of male members are 3 years younger than the member.<br>Spouses/domestic partners of female members are 3 years older than the member. |
| **Future Benefit Accruals:** | 1.0 year of service per year. |
| **Net Investment Return:** | 7.50%, net of investment and administrative expenses. |
| **Inflation:** | 3.00% |
| **Across the Board Salary Increases:** | 0.50% |
| **Payroll Growth:** | 3.50% |

* *Based on past practice, this is not necessarily the same as the percent married assumption used in the pension valuation. Some married members may not elect HIB spouse coverage upon retirement due to the additional cost to the member. In our next experience study, we will review the appropriateness of aligning this assumption with the percent married assumption in the pension valuation.*

**Salary Increases:**

**Annual Rate of Compensation Increase**

Inflation: 3.00% per year; plus across the board salary increases of 0.50% per year; plus the following merit and promotional increases based on years of service:

| Years of Service | Merit and Promotional 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 less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 30% of the market value.

**Actuarial Cost Method:** Entry Age Actuarial 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.<br><br>47.5% of current and future deferred vested members are assumed to enroll in the HIB plan (50% of the future retiree election percent). |
| **Average HIB subsidy:** | For current retirees, we have used the HIB benefit on record. For future retirees, we have assumed that:<br><br>Retirees under age 65 with single HIB coverage will receive an average $450 monthly benefit as of July 1, 2014,<br><br>Retirees under age 65 with spouse HIB coverage will receive an average $540 monthly benefit as of July 1, 2014,<br><br>Retirees age 65 and over with single HIB coverage will receive an average $427 monthly benefit as of July 1, 2014,<br><br>Retirees age 65 and over with spouse HIB coverage will receive an average $531 monthly benefit as of July 1, 2014. |
| **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. |

**Carrier Election And Monthly Premiums – Participant Under Age 65:**

| 2014 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | $598.98 | $1,197.96 | $598.98 |
| Blue Cross | $720.57 | $1,645.36 | $720.57 |
| Health Net | $982.28 | $1,964.56 | $982.28 |

| 2015 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | $572.53 | $1,145.06 | $572.53 |
| Blue Cross | $742.90 | $1,512.57 | $742.90 |
| Health Net | $1,079.32 | $2,158.63 | $1,079.32 |

| 2014-2015 Fiscal Year | | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|---|
| **CARRIER** | Election Percent | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | **70** | $585.57 | $1,171.14 | $585.57 |
| Blue Cross | **20** | $731.74 | $1,578.97 | $731.74 |
| Health Net | **10** | $1,030.80 | $2,061.60 | $1,030.80 |

**Carrier Election and Monthly Premiums – Participant Age 65 and Older:**

| 2014 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | $312.80 | $625.60 | $312.80 |
| Blue Cross | $518.75 | $1,228.56 | $518.75 |
| Health Net | $539.52 | $1,079.04 | $539.52 |

| 2015 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser* | $311.35 | $622.70 | $311.35 |
| Blue Cross | $484.74 | $985.84 | $484.74 |
| Health Net | $566.50 | $1,133.00 | $566.50 |

| 2014-2015 Fiscal Year | Election Percent | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|---|
| **CARRIER** | | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | **60** | $312.08 | $624.15 | $312.08 |
| Blue Cross | **28** | $501.75 | $1,107.20 | $501.75 |
| Health Net | **12** | $553.01 | $1,106.02 | $553.01 |

* *We assume all future Kaiser Medicare retirees will elect the High option.*

## Health care cost trend rates

Trends to be applied in following fiscal years, to all health plans

Trends to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium

First Fiscal Year (July 1, 2015 through June 30, 2016)

| PLAN | | Kaiser | HealthNet | Blue Cross |
|---|---|---|---|---|
| Trend to be applied to 2014-2015 Fiscal Year premium | | 1.16% | 8.37% | 5.08% |
| | | 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 |
| 2015-2016 | 6.875% | 2015 | 7.00% | 7.00% |
| 2016-2017 | 6.625% | 2016 | 6.75 | 6.75 |
| 2017-2018 | 6.375% | 2017 | 6.50 | 6.50 |
| 2018-2019 | 6.125% | 2018 | 6.25 | 6.25 |
| 2019-2020 | 5.875% | 2019 | 6.00 | 6.00 |
| 2020-2021 | 5.625% | 2020 | 5.75 | 5.75 |
| 2021-2022 | 5.375% | 2021 | 5.50 | 5.50 |
| 2022-2023 | 5.125% | 2022 | 5.25 | 5.25 |
| 2023-2024 and later | 5.000% | 2023 and later | 5.00 | 5.00 |

**Changes in Actuarial Assumptions**

Medical election assumption, trends and premiums were updated.

The average HIB subsidy for future retirees was updated.

The investment return assumption was lowered from 7.75% to 7.50%

The inflation component of the salary increase assumption was lowered from 3.25% to 3.00%.

**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;<br>Age 62 with 5 years of service;<br>Age 59 with 20 years of service;<br>Age 54 with 30 years of service;<br>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 financially dependent registered domestic partners) is paid to retirees with at least five years of full-time service to reimburse employee-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 may receive a Health Insurance Benefit of up to $450 per month.

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# East Bay Municipal Utility District Retirement System - Health Insurance Benefit Valuation

**Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2014 In accordance with GASB Statements No. 43 and No. 45**

Segal Consulting

100 Montgomery Street, Suite 500 San Francisco, CA 94104
T 415.263.8200 www.segalco.com

*January 7, 2015*

*Mr. Eric L. Sandler*
*Director of Finance*
*East Bay Municipal Utility District*
*375 Eleventh Street*
*Oakland, California 94607-4240*

*Dear Eric:*

*We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2014 under Governmental Accounting Standards Board Statements 43 and 45. The report summarizes the actuarial data used in the valuation, discloses the Net OPEB obligation (NOO) as of June 30, 2014, establishes the Annual Required Contribution (ARC) for the 2015/2016 plan year, and analyzes the preceding year's experience. This report was based on the census and financial data and the terms of the Plan as provided by the District. The actuarial calculations were completed under the supervision of Thomas Bergman, ASA, MAAA, EA.*

*This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in this valuation and described in Exhibit II are reasonably related to the experience of and the expectations for the Plan. The actuarial projections are based on these assumptions and the plan of benefits as summarized in Exhibit III.*

*Sincerely,*

*Segal Consulting, a Member of The Segal Group, Inc.*

| | |
|---|---|
| *By: Andy Yeung, ASA, MAAA, FCA, EA* | *Thomas Bergman, ASA, MAAA, EA* |
| *Vice President and Associate Actuary* | *Assistant Actuary* |

*JWL/hy*

SECTION 1

EXECUTIVE SUMMARY



SECTION 2

VALUATION RESULTS



SECTION 3

VALUATION DETAILS



SECTION 4

SUPPORTING INFORMATION

**PURPOSE**

This report presents the results of our actuarial valuation of East Bay Municipal Utility District (the "District") OPEB plan as of June 30, 2014. The results are in accordance with the Governmental Accounting Standards, which prescribe an accrual methodology for accumulating the value of other postemployment benefits (OPEB) over participants' active working lifetimes.

**HIGHLIGHTS OF THE VALUATION**

- A separate report provides the funding requirement for a monthly health insurance subsidy of $450 ($550 for married retirees or retirees with qualified domestic partners). GASB requires employers, such as EBMUD, that pool health insurance premium rates for actives and retirees under age 65 to also calculate on an accrual basis the liability associated with such pooled premiums for retirees under age 65. That liability, referred to as the implicit subsidy, is included in this valuation in addition to the liability for the $450/$550 subsidy.

- According to GASB, the discount rate used to determine the accrual rate should be based on an analysis of the amount of assets currently held to pay for retiree health benefits relative to the retiree health liability. GASB Statement 45 paragraph 13 (c) states "…the investment return assumption (discount rate) should be the estimated long-term investment yield on the investments that are estimated to be used to finance the payment of benefits, with consideration given to the nature and mix of current and expected investments…" The 7.00% discount rate used in this valuation is based on a weighted average of a 7.50% discount rate for a fully funded plan with 4.50% discount rate assuming no prefunding of any liabilities and only District's assets are available to pay these benefits. This rate is unchanged from that we used in the last valuation as of June 30, 2013.[1]

- It is our understanding that the Annual Required Contribution (ARC) for the valuation as of June 30, 2014 will be used for the 2015/2016 fiscal year and the ARC for each subsequent fiscal year would follow with a similar 12-month lag between the date of the valuation and the date of the rate implementation. Please note that this is consistent with the time lag that is in place for the payment of cash contributions for the pension plan and the $450/$550 subsidy.

- The unfunded actuarial accrued liability (UAAL) as of June 30, 2014 is $120,781,571 and the UAAL from the prior valuation was $121,597,635.

- As of June 30, 2014, the ratio of actuarial value of assets to the AAL (the funded ratio) is 13.98%. Last year, the funded ratio was 11.96%. The funded ratio on a market value of assets basis increased from 12.09% to15.31% in this valuation.

- Based on prior input provided by the Plan's auditor, we have included only cash payments made explicitly to fund the $450/$550 subsidy as contributions. In particular, we have excluded as contributions, all the implicit subsidies that the District has paid.

---

[1] *Before rounding to the nearest 0.25%, the weighted of average discount rate calculations of June 30, 2014 is 6.92%. Before rounding to the nearest 0.25%, the weighted average discount rate calculated as of June 30, 2013 is 7.09%.*

- The **Annual Required Contribution (ARC)** increased to $11,204,813 this year. The ARC was $10,879,347 last year. Both numbers have been adjusted with interest to the middle of the year.
- We have provided the results of the HIB funding valuation in a separate report.
- Based on prior directions from the District, we have not included in this valuation any projected excise tax that may be imposed by the Affordable Care Act and other related statutes.

*The key valuation results for the current and prior years are shown.*

**SUMMARY OF VALUATION RESULTS**

| | | June 30, 2014 | June 30, 2013 |
|---|---|---|---|
| **Actuarial Accrued Liability (AAL)** | | $140,415,921 | $138,120,016 |
| **Actuarial Value of Assets (AVA)** | | 19,634,350 | 16,522,381 |
| **Unfunded Actuarial Accrued Liability** | | 120,781,571 | 121,597,635 |
| **Funded Ratio** | | 13.98% | 11.96% |
| **Market Value of Assets (MVA)** | | $21,501,000 | $16,700,000 |
| **Funded Ratio on MVA Basis** | | 15.31% | 12.09% |
| **Annual Required Contribution (ARC) for Fiscal Years** | | **2015/2016** | **2014/2015** |
| Normal cost (beginning of year) | | $3,522,321 | $3,514,495 |
| Amortization of the unfunded actuarial accrued liability | | 7,309,780 | 7,002,966 |
| Adjustment for timing | | 372,712 | 361,886 |
| Total Annual Required Contribution, including adjustment for timing* | | $11,204,813 | $10,879,347 |
| Covered payroll | | $167,195,870 | $159,246,357 |
| **Total Participants** | | 3,316 | 3,212 |
| **Annual OPEB Cost (AOC) for Fiscal Years** | **2015/2016** | **2014/2015** | **2013/2014** |
| Annual Required Contributions | $11,590,348 | $11,253,683 | $11,195,860 |
| Interest on Net OPEB Obligations | N/A | 1,532,758 | 1,362,216 |
| ARC Adjustments | N/A | -1,545,755 | -1,373,767 |
| Total Annual OPEB Cost | N/A | $11,240,686 | $11,184,309 |

* *The ARCs, when adjusted with interest to end of year, are $11,590,348 and $11,253,683 for 2015/2016 and 2014/2015, respectively.*

January 7, 2015

## ACTUARIAL CERTIFICATION

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of East Bay Municipal Utility District's other postemployment benefit programs as of June 30, 2014, in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements 43 and 45 for the determination of the liability for postemployment benefits other than pensions.

The actuarial valuation is based on the plan of benefits verified by the District and reliance on participant, premium, claims and expense data provided by the District or from vendors employed by the District. Segal Consulting has not audited the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal Consulting, however, has reviewed the data for reasonableness and consistency.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination of the plan, or determining short-term cash flow requirements.

To the best of our knowledge, this report is complete and accurate and in my opinion presents the information necessary to comply with GASB Statements 43 and 45 with respect to the benefit obligations addressed. The signing actuary is a member of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and meets the "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.

Thomas Bergman

Thomas Bergman, ASA, MAAA, EA
Assistant Actuary

The actuarial present value of total projected benefits uses the actuarial assumptions disclosed in Section 4 to calculate the value today of all benefits expected to be paid to current actives and retired plan members. The actuarial balance sheet shows the expected breakdown of how these benefits will be financed.

## CHART 1

### Actuarial Present Value of Total Projected Benefits (APB) and Actuarial Balance Sheet

| | Actuarial Present Value of Total Projected Benefits (APB) | |
|---|---|---|
| | **June 30, 2014** | **June 30, 2013** |
| **Participant Category** | | |
| Current retirees, beneficiaries, and dependents | $83,428,329 | $80,781,571 |
| Current active members | 76,767,015 | 76,858,141 |
| Terminated members entitled but not yet eligible | 5,798,646 | 5,863,047 |
| Total | $165,993,990 | $163,502,759 |

| | **June 30, 2014** | **June 30, 2013** |
|---|---|---|
| **Actuarial Balance Sheet** | | |
| The actuarial balance sheet as of the valuation date is as follows: | | |
| **Assets** | | |
| 1. Actuarial value of assets | $19,634,350 | $16,522,381 |
| 2. Present value of future normal costs | 25,578,069 | 25,382,743 |
| 3. Unfunded actuarial accrued liability | 120,781,571 | 121,597,635 |
| 4. Present value of current and future assets | $165,993,990 | $163,502,759 |
| **Liabilities** | | |
| 5. Actuarial Present Value of total Projected Benefits | $165,993,990 | $163,502,759 |

The actuarial accrued liability shows that portion of the APB (Chart 1) allocated to periods prior to the valuation date by the actuarial cost method. The chart below shows the portion covered by accumulated plan assets, and reconciles the unfunded actuarial accrued liability from last year to this year.

**CHART 2**

**Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL)**

| | June 30, 2014 | June 30, 2013 |
|---|---|---|
| **Participant Category** | | |
| Current retirees, beneficiaries, and dependents | $83,428,329 | $80,781,571 |
| Current active members | 51,188,946 | 51,475,398 |
| Terminated members entitled but not yet eligible | 5,798,646 | 5,863,047 |
| Total actuarial accrued liability | $140,415,921 | $138,120,016 |
| Actuarial value of assets | 19,634,350 | 16,522,381 |
| Unfunded actuarial accrued liability | $120,781,571 | $121,597,635 |

| **Development of Unfunded Actuarial Accrued Liability** | |
|---|---|
| 1. Unfunded actuarial accrued liability as of June 30, 2013 | $121,597,635 |
| 2. Employer normal cost at beginning of year | 3,514,495 |
| 3. Total District and member contributions, payable throughout year, including implicit subsidy | -10,670,288 |
| 4. Interest | 8,390,705 |
| 5. Expected unfunded actuarial accrued liability [(1) + (2) + (3) + (4)] | 122,832,547 |
| 6. Change due to the combined effect of experience gains*, updated assumptions and methods | -2,050,976 |
| 7. Unfunded actuarial accrued liability as of June 30, 2014 [(5) + (6)] | $120,781,571 |

** Experience gains due in part to average premium increases less than expected, resulting in lower than expected implicit subsidy liability.*

The unfunded actuarial accrued liability may be amortized over periods of up to 30 years. Amortization payments may be calculated as level dollar amounts or as amounts designed to remain level as a percent of a growing payroll base.

Consistent with the amortization periods used for the prefunding valuation, the unfunded actuarial accrued liability for this GASB valuation has been amortized using the following rules: 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 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. The above payments would continue to be expressed as a level percent of a growing payroll base.

**CHART 3**

**Table of Amortization Bases**

| Type | Date Established | Initial Year | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment* |
|---|---|---|---|---|---|---|
| Combined Base | 06/30/2007 | 30 | $101,200,454 | $111,887,590 | 23 | $6,845,658 |
| Combined Base | 06/30/2008 | 30 | 26,703,483 | 29,071,034 | 24 | 1,729,422 |
| Combined Base | 06/30/2009 | 30 | -9,453,057 | -10,191,644 | 25 | -590,483 |
| Combined Base | 06/30/2010 | 30 | 422,554 | 449,508 | 26 | 25,403 |
| Combined Base | 06/30/2011 | 30 | -3,887,456 | -4,074,677 | 27 | -224,916 |
| Experience Gain | 06/30/2012 | 20 | -3,441,091 | -3,427,752 | 18 | -248,920 |
| Assumption Changes | 06/30/2012 | 25 | 2,470,490 | 2,513,651 | 23 | 153,794 |
| Experience Gain | 06/30/2013 | 20 | -3,613,560 | -3,611,415 | 19 | -252,193 |
| Experience Gain | 06/30/2014 | 20 | -2,308,275 | -2,308,275 | 20 | -155,422 |
| Assumption Changes | 06/30/2014 | 25 | 473,551 | 473,551 | 25 | 27,437 |
| Total | | | | $120,781,571 | | $7,309,780 |

* *Level percentage of pay.*

The Annual Required Contribution (ARC) is the amount calculated to determine the annual cost of the OPEB plan for accounting purposes *as if* the plan were being fully funded through contributions to a trust fund. The GASB standards cannot require the contributions actually be made to a trust fund. The ARC is simply a device used to measure annual plan costs on an accrual basis. The calculation consists of adding the Normal Cost of the plan to an amortization payment. The resulting sum is then adjusted to the start of the accounting period and adjusted as if the annual cost were to be contributed at the end of the fiscal year.

The amortization payment is based on the methodology described on the previous page.

**CHART 4**

**Determination of Annual Required Contribution (ARC) – Payable at End of Fiscal Year**

| Cost Element | Fiscal Year Beginning July 1, 2015 and Ending June 30, 2016<br>Amount | Fiscal Year Beginning July 1, 2014 and Ending June 30, 2015<br>Amount |
|---|---|---|
| 1. Normal cost | $3,522,321 | $3,514,495 |
| 2. Amortization of the unfunded actuarial accrued liability | 7,309,780 | 7,002,966 |
| 3. Adjustment for timing | 758,247 | 736,222 |
| 4. Total Annual Required Contribution (ARC) | $11,590,348 | $11,253,683 |
| 5. Covered Payroll | $167,195,870 | $159,246,357 |

The Annual OPEB Cost (AOC) adjusts the ARC for timing differences between the ARC and contributions in relation to the ARC. The AOC is the cost of OPEB actually booked as an expense for the Fiscal Year under GASB 45.

**CHART 4 (continued)**

**Determination of Annual OPEB Cost (AOC) – Payable at End of Fiscal Year**

| Cost Element | Fiscal Year Beginning July 1, 2014 and Ending June 30, 2015 | Fiscal Year Beginning July 1, 2013 and Ending June 30, 2014 |
|---|---|---|
| | **Amount** | **Amount** |
| 1. Annual Required Contribution | $11,253,683 | $11,195,860 |
| 2. Interest on Beginning of Year Net OPEB Obligation (NOO) | 1,532,758 | 1,362,216 |
| 3. ARC adjustment | -1,545,755 | -1,373,767 |
| 4. Annual OPEB Cost | $11,240,686 | $11,184,309 |

For GASB 43 (plan reporting) purposes, the schedule of employer contributions compares actual contributions to the ARC. For GASB 45 (employer reporting) purposes, the schedule of employer contributions compares actual contributions to the AOC.

**CHART 5**

**Required Supplementary Information – Schedule of Employer Contributions**

**GASB 43**

| Fiscal Year Ended June 30 | Annual Required Contributions * | Actual Contributions *, ** | Percentage Contributed |
|---|---|---|---|
| 2010 | $11,775,082 | $8,000,132 | 67.94% |
| 2011 | 10,869,456 | 7,760,904 | 71.40% |
| 2012 | 11,289,088 | 7,761,940 | 68.76% |
| 2013 | 11,145,169 | 8,039,419 | 72.13% |
| 2014 | 11,195,860 | 8,747,989 | 78.14% |
| 2015 | 11,253,683 | Not Made Yet | N/A |

** Includes an interest adjustment to the end of the year.*

**Required Supplementary Information – Schedule of Employer Contributions**

**GASB 45**

| Fiscal Year Ended June 30 | Annual OPEB Cost * | Actual Contributions *, ** | Percentage Contributed |
|---|---|---|---|
| 2010 | $11,870,830 | $8,000,132 | 67.39% |
| 2011 | 11,037,119 | 7,760,904 | 70.32% |
| 2012 | 11,517,619 | 7,761,940 | 67.39% |
| 2013 | 11,443,477 | 8,039,419 | 70.25% |
| 2014 | 11,184,309 | 8,747,989 | 78.22% |
| 2015 | 11,240,686 | Not Made Yet | N/A |

* *Includes an interest adjustment to the end of the year.*

** *Based on prior input provided by the Plan's auditor, we have included only cash payments made explicitly to fund the $450/$550 subsidy as contributions. In particular, we have excluded as contributions, all the implicit subsidies that the District has paid.*

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

**CHART 6**

**Required Supplementary Information – Schedule of Funding Progress**

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b) – (a) | Funded Ratio (a) / (b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b) – (a) / (c)] |
|---|---|---|---|---|---|---|
| 06/30/2009 | $7,354,100 | $130,244,834 | $122,890,734 | 5.65% | $161,893,313 | 75.91% |
| 06/30/2010 | 10,061,483 | 135,379,496 | 125,318,013 | 7.43% | 164,084,580 | 76.37% |
| 06/30/2011 | 12,047,650 | 135,359,929 | 123,312,279 | 8.90% | 159,504,853 | 77.31% |
| 06/30/2012 | 14,240,105 | 138,239,551 | 123,999,446 | 10.30% | 158,847,491 | 78.06% |
| 06/30/2013 | 16,522,381 | 138,120,016 | 121,597,635 | 11.96% | 159,246,357 | 76.36% |
| 06/30/2014 | 19,634,350 | 140,415,921 | 120,781,571 | 13.98% | 167,195,870 | 72.24% |

The Net OPEB obligation measures the accumulated differences between the annual OPEB cost and the actual contributions in relation to the ARC.

**CHART 7**

**Required Supplementary Information – Net OPEB Obligation (NOO)**

| Fiscal Year End | Annual Required Contribution * (a) | Interest on Existing NOO (b) | ARC Adjustment (c) | Annual OPEB Cost (a) + (b) + (c) (d) | Actual Contribution Amount * ** (e) | Net Increase in NOO (d) - (e) (f) | NOO as of Fiscal Year (g) |
|---|---|---|---|---|---|---|---|
| 6/30/2009 | $9,475,504 | $142,234 | -$108,009 | $9,509,729 | $6,318,000 | $3,191,729 | $5,153,573 |
| 6/30/2010 | 11,775,082 | 373,634 | -277,886 | 11,870,830 | 8,000,132 | 3,870,698 | 9,024,271 |
| 6/30/2011 | 10,869,456 | 654,260 | -486,597 | 11,037,119 | 7,760,904 | 3,276,215 | 12,300,486 |
| 6/30/2012 | 11,289,088 | 891,785 | -663,254 | 11,517,619 | 7,761,940 | 3,755,679 | 16,056,165 |
| 6/30/2013 | 11,145,169 | 1,164,072 | -865,764 | 11,443,477 | 8,039,419 | 3,404,058 | 19,460,223 |
| 6/30/2014 | 11,195,860 | 1,362,216 | -1,373,767 | 11,184,309 | 8,747,989 | 2,436,320 | 21,896,543 |
| 6/30/2015 | 11,253,683 | 1,532,758 | -1,545,755 | 11,240,686 | Not Made Yet | N/A | N/A |
| 6/30/2016 | 11,590,348 | N/A | N/A | N/A | N/A | N/A | N/A |

* *Includes an interest adjustment to the end of the year.*

** *Based on prior input provided by the Plan's auditor, we have included only cash payments made explicitly to fund the $450/$550 subsidy as contributions. In particular, we have excluded as contributions, all the implicit subsidies that the District has paid.*

N/A: To be completed when actual contribution amount is known.

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

## EXHIBIT A

### Summary of Participant Data

### i. All

| Category | Year Ended June 30 2014 | Year Ended June 30 2013 |
|---|---|---|
| **Active participants in valuation:** | | |
| Number | 1,715 | 1,666 |
| Average age | 49.3 | 49.7 |
| Average service | 14.3 | 14.9 |
| Projected total covered payroll | $167,195,870 | $159,246,357 |
| Projected average covered payroll | $97,490 | $95,586 |
| **Vested terminated participants*:** | | |
| Number | 237 | 232 |
| Average age | 49.9 | 49.8 |
| **Retired participants:** | | |
| Number in pay status | 1,174 | 1,121 |
| Average age | 69.3 | 69.3 |
| Number receiving a health subsidy | 1,116 | 1,065 |
| **Disabled participants:** | | |
| Number in pay status | 58 | 60 |
| Average age | 64.5 | 63.7 |
| Number receiving a health subsidy | 54 | 56 |
| **Beneficiaries:** | | |
| Number in pay status | 265 | 259 |
| Average age | 75.9 | 76.0 |
| Number receiving a health subsidy | 194 | 193 |

** Includes terminated participants due a refund of employee contributions only.*

## EXHIBIT A

### Summary of Participant Data

### ii. 1955/1980 Plan

| Category | Year Ended June 30 2014 | 2013 |
|---|---|---|
| **Active participants in valuation:** | | |
| Number | 1,585 | 1,645 |
| Average age | 50.3 | 49.9 |
| Average service | 15.5 | 15.1 |
| Projected total covered payroll | $157,562,955 | $157,851,076 |
| Projected average covered payroll | $99,409 | $95,958 |
| **Vested terminated participants*:** | | |
| Number | 230 | 231 |
| Average age | 50.1 | 49.8 |
| **Retired participants:** | | |
| Number in pay status | 1,174 | 1,121 |
| Average age | 69.3 | 69.3 |
| Number receiving a health subsidy | 1,116 | 1,065 |
| **Disabled participants:** | | |
| Number in pay status | 58 | 60 |
| Average age | 64.5 | 63.7 |
| Number receiving a health subsidy | 54 | 56 |
| **Beneficiaries:** | | |
| Number in pay status | 265 | 259 |
| Average age | 75.9 | 76.0 |
| Number receiving a health subsidy | 194 | 193 |

** Includes terminated participants due a refund of employee contributions only.*

**EXHIBIT A**

**Summary of Participant Data**

**iii. 2013 Tier**

| | Year Ended June 30 | |
|---|---|---|
| **Category** | **2014** | **2013** |
| **Active participants in valuation:** | | |
| Number | 130 | 21 |
| Average age | 37.6 | 38.8 |
| Average service | 0.7 | 0.2 |
| Projected total covered payroll | $9,632,915 | $1,395,281 |
| Projected average covered payroll | $74,099 | $66,442 |
| **Vested terminated participants*:** | | |
| Number | 7 | 1 |
| Average age | 43.4 | 48.0 |
| **Retired participants:** | | |
| Number in pay status | N/A | N/A |
| Average age | N/A | N/A |
| Number receiving a health subsidy | N/A | N/A |
| **Disabled participants:** | | |
| Number in pay status | N/A | N/A |
| Average age | N/A | N/A |
| Number receiving a health subsidy | N/A | N/A |
| **Beneficiaries:** | | |
| Number in pay status | N/A | N/A |
| Average age | N/A | N/A |
| Number receiving a health subsidy | N/A | N/A |

** Includes terminated participants due a refund of employee contributions only.*

## EXHIBIT B
### Cash Flow Projections

The ARC generally exceeds the current pay-as-you-go ("paygo") cost of an OPEB plan. Over time, the paygo cost will tend to grow and may even eventually exceed the ARC in a well-funded plan. The following table projects the paygo cost as the projected net fund payment over the next ten years.

| Year Ending June 30 | Projected Number of Retirees* | | | Projected Benefit Payments** | | |
|---|---|---|---|---|---|---|
| | Current | Future | Total | Current | Future | Total |
| 2015 | 2,167 | 186 | 2,353 | $9,073,791 | $845,273 | $9,919,064 |
| 2016 | 2,114 | 338 | 2,452 | 8,805,592 | 1,583,639 | 10,389,231 |
| 2017 | 2,059 | 481 | 2,540 | 8,545,952 | 2,347,094 | 10,893,046 |
| 2018 | 2,004 | 626 | 2,630 | 8,259,736 | 3,099,769 | 11,359,505 |
| 2019 | 1,948 | 766 | 2,714 | 7,974,384 | 3,844,795 | 11,819,179 |
| 2020 | 1,889 | 897 | 2,786 | 7,665,243 | 4,580,954 | 12,246,197 |
| 2021 | 1,831 | 1,028 | 2,859 | 7,322,980 | 5,237,855 | 12,560,835 |
| 2022 | 1,773 | 1,148 | 2,921 | 7,017,119 | 5,850,686 | 12,867,805 |
| 2023 | 1,712 | 1,264 | 2,976 | 6,703,988 | 6,487,987 | 13,191,975 |
| 2024 | 1,652 | 1,369 | 3,021 | 6,341,274 | 7,060,823 | 13,402,097 |

* *Includes spouses/domestic partners of retirees.*

** *Includes implicit subsidy.*

## EXHIBIT C

### Summary Statement of Income and Expenses on an Actuarial Value Basis for All Pension Plan and HIB Plan Assets

| | Year Ended June 30, 2014 | | Year Ended June 30, 2013 | |
|---|---|---|---|---|
| **Contribution income:** | | | | |
| Employer contributions | $70,117,000 | | $61,567,000 | |
| Employee contributions | 12,133,000 | | 10,566,000 | |
| Net contribution income | | $82,250,000 | | $72,133,000 |
| **Investment income:** | | | | |
| Interest, dividends and other income | $23,767,000 | | $21,286,000 | |
| Recognition of capital appreciation | 94,593,558 | | 60,327,489 | |
| Less investment and administrative fees | (4,760,000) | | (5,068,000) | |
| Net investment income | | $113,600,558 | | $76,545,489 |
| **Total income available for benefits** | | $195,850,558 | | $148,678,489 |
| **Less benefit payments:** | | | | |
| Benefits paid | $(78,149,000) | | $(71,760,000) | |
| Refund of contributions | (116,000) | | (335,000) | |
| Net benefit payments | | $(78,265,000) | | $(72,095,000) |
| **Change in amount available for future benefits** | | $117,585,558 | | $76,583,489 |

**EXHIBIT D**

**Summary Statement of Assets for Pension and HIB Plans**

| | Year Ended June 30, 2014 | | Year Ended June 30, 2013 | |
|---|---|---|---|---|
| **Cash equivalents** | | $36,658,000 | | $34,397,000 |
| **Accounts receivable:** | | | | |
| Brokers, securities sold | $2,945,000 | | $12,127,000 | |
| Employer and employee contributions | 3,501,000 | | 2,973,000 | |
| Interest and dividends | 2,074,000 | | 2,278,000 | |
| Total accounts receivable | | $8,520,000 | | $17,378,000 |
| **Investments:** | | | | |
| Equities | $987,635,000 | | $812,806,000 | |
| Fixed income investments | 251,109,000 | | 230,063,000 | |
| Real estate | 68,194,000 | | 53,222,000 | |
| Securities lending collateral | 129,511,000 | | 101,523,000 | |
| Other assets | 477,000 | | 459,000 | |
| Total investments at market value | | $1,436,926,000 | | $1,198,073,000 |
| **Total assets** | | $1,482,104,000 | | $1,249,848,000 |
| **Less accounts payable:** | | | | |
| Accounts payable and accrued expenses | $(1,507,000) | | $(1,472,000) | |
| Payables to brokers, securities purchased | (4,198,000) | | (22,525,000) | |
| Securities lending collateral | (129,511,000) | | (101,523,000) | |
| Total accounts payable | | $(135,216,000) | | $(125,520,000) |
| **Net assets at market value** | | $1,346,888,000 | | $1,124,328,000 |
| **Net assets at actuarial value** | | $1,229,955,379 | | $1,112,369,821 |
| **Net assets at valuation value (HIB only)** | | $19,634,350 | | $16,522,381 |

## EXHIBIT E

### Actuarial Value of Assets

To minimize volatility in the calculation of the annual required contribution, the Employer may choose to smooth out short-term changes in the market value of plan assets by use of an actuarial value of assets method. East Bay Municipal Utility District adopted the following method that smoothes such changes over a five-year period.

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

### CHART 8

**Determination of Actuarial Value of Assets for Year Ended June 30, 2014 (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 | | | | | $1,325,387,000 |
| (b) HIB plan | | | | | 21,501,000 |
| (c) Total | | | | | $1,346,888,000 |
| 2. Calculation of deferred return: | | | | | |
| (a) Year ended June 30, 2008 | $(76,707,000) | $75,340,031 | $(152,047,031) | | |
| (b) Year ended June 30, 2009 | (171,905,000) | 69,269,846 | (241,174,846) | see footnote (1) below | |
| (c) Year ended June 30, 2010 | 95,737,000 | 55,360,181 | 40,376,819 | | |
| (d) Year ended June 30, 2011 | 191,970,000 | 61,812,840 | 130,157,160 | 25% | $368,118 |
| (e) Year ended June 30, 2012 | 15,202,000 | 77,600,360 | (62,398,360) | 40% | (24,959,344) |
| (f) Year ended June 30, 2013 | 137,318,000 | 76,491,803 | 60,826,197 | 60% | 36,495,718 |
| (g) Year ended June 30, 2014 | 218,575,000 | 87,289,839 | 131,285,161 | 80% | 105,028,129 |
| (h) Total unrecognized return* | | | | | $116,932,621 |
| 3. Preliminary actuarial value: (1c) - (2h) | | | | | $1,229,955,379 |
| 4. Adjustment to be within 30% corridor of market value | | | | | 0 |
| 5. Final actuarial value of assets for pension and HIB plans: (3) + (4) | | | | | $1,229,955,379 |
| 6. Actuarial value as a percentage of market value: (5) ÷ (1c) | | | | | 91.3%. |
| 7. Valuation value of HIB assets: (1b) ÷ (1c) x (5) | | | | | $19,634,350 |

[(1)] *Based on action taken by the Board in 2012, the total deferred gain of $1,472,475 through June 30, 2011 as of that valuation has been recognized in four level amounts, with one year of recognition remaining after the June 30, 2014 valuation.*

* *The amount of deferred return that will be recognized in each subsequent valuation is as follows (amounts may not total exactly due to rounding):*

| | |
|---|---|
| *6/30/2015* | *$26,310,719* |
| *6/30/2016* | *25,942,600* |
| *6/30/2017* | *38,422,272* |
| *6/30/2018* | *26,257,032* |
| *Total* | *$116,932,621* |

## EXHIBIT I

### Summary of Required Supplementary Information

| | |
|---|---|
| **Valuation date** | June 30, 2014 |
| **Actuarial cost method** | Entry age, level percent of pay |
| **Amortization method** | Level percent of payroll |
| **Remaining amortization periods** | 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 are amortized over separate decreasing 20-year periods. |
| **Asset valuation method** | Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value. |

| | |
|---|---|
| **Actuarial assumptions**: | |
| Discount rate | 7.00%, based on the understanding that the District is fully prefunding the Health Insurance Benefit and is not prefunding the implicit subsidy. The discount rate for a fully funded plan is assumed to be 7.50%. The discount rate for an unfunded plan is assumed to be 4.50%. |
| Inflation rate | 3.00% |
| Across the board salary increases: | 0.50% |
| Projected payroll increases | 3.50% |
| Assumed increase in the $450/$550 HIB subsidy maximum | None |
| Medical Trends for Implicit Subsidy | See Exhibit II |

**EXHIBIT II**

**Actuarial Assumptions and Actuarial Cost Method**

**Mortality Rates:**

| | |
|---|---|
| *Pre-retirement and After Service Retirement:* | RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set back one year for males |
| | RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set back two years for females |
| *After Disability Retirement:* | RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set forward six years for males |
| | RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2016, set forward six years for females |

The tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

**Disability Rates:**

| | Rate (%) | |
|---|---|---|
| **Age** | **Male** | **Female** |
| 25 | 0.000 | 0.000 |
| 30 | 0.006 | 0.030 |
| 35 | 0.016 | 0.068 |
| 40 | 0.068 | 0.212 |
| 45 | 0.190 | 0.360 |
| 50 | 0.256 | 0.460 |
| 55 | 0.266 | 0.560 |
| 60 | 0.288 | 0.660 |
| 65 | 0.360 | 0.760 |

**Termination Rates:**

| | Rate (%) | |
|---|---|---|
| | Ordinary Withdrawal* | |
| Service | Male | Female |
| 0 | 1.75 | 2.75 |
| 1 | 1.50 | 2.50 |
| 2 | 1.25 | 2.25 |
| 3 | 1.00 | 2.00 |
| 4 | 0.50 | 1.25 |

| | Rate (%) | | | |
|---|---|---|---|---|
| | Ordinary Withdrawal** | | Vested Termination | |
| Age | Male | Female | Male | Female |
| 25 | 0.42 | 0.94 | 5.40 | 7.00 |
| 30 | 0.37 | 0.84 | 4.40 | 6.40 |
| 35 | 0.32 | 0.74 | 3.10 | 4.80 |
| 40 | 0.27 | 0.52 | 1.72 | 3.40 |
| 45 | 0.22 | 0.34 | 1.02 | 2.40 |
| 50 | 0.17 | 0.24 | 0.72 | 1.40 |
| 55 | 0.12 | 0.20 | 0.48 | 0.70 |
| 60 | 0.07 | 0.14 | 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 | 3.00 | 3.00 | 2.00 |
| 55 | 8.00 | 6.00 | 5.00 | 4.00 |
| 56 | 8.00 | 7.00 | 6.00 | 5.00 |
| 57 | 9.00 | 7.00 | 6.00 | 5.00 |
| 58 | 9.00 | 8.00 | 6.00 | 5.00 |
| 59 | 11.00 | 10.00 | 8.00 | 7.00 |
| 60 | 11.00 | 10.00 | 8.00 | 7.00 |
| 61 | 14.00 | 15.00 | 10.00 | 11.00 |
| 62 | 25.00 | 20.00 | 19.00 | 15.00 |
| 63 | 20.00 | 15.00 | 16.00 | 12.00 |
| 64 | 10.00 | 15.00 | 8.00 | 12.00 |
| 65 | 30.00 | 20.00 | 26.00 | 17.00 |
| 66 | 25.00 | 20.00 | 25.00 | 20.00 |
| 67 | 35.00 | 25.00 | 35.00 | 25.00 |
| 68 | 35.00 | 35.00 | 35.00 | 35.00 |
| 69 | 40.00 | 35.00 | 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:** | 58 |
| **Unknown Data for Participants:** | Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. |
| **Spouse Coverage:** | 80% of males and 50% of females are assumed to elect spouse HIB coverage at retirement*. For current retirees, we relied upon the coverage indicated in the data. |
| **Age of Spouse:** | Spouses/domestic partners of male members are 3 years younger than the member. Spouses/domestic partners of female members are 3 years older than the member. |
| **Future Benefit Accruals:** | 1.0 year of service per year. |
| **Net Investment Return:** | 7.00%, net of investment and administrative expenses. |
| **Inflation:** | 3.00% |
| **Across the Board Salary Increases:** | 0.50% |
| **Payroll Growth:** | 3.50% |

** Based on past practice, this is not necessarily the same as the percent married assumption used in the pension valuation. Some married members may not elect HIB spouse coverage upon retirement due to the additional cost to the member. In our next experience study, we will review the appropriateness of aligning this assumption with the percent married assumption in the pension valuation.*

**Salary Increases:**

**Annual Rate of Compensation Increase**

Inflation: 3.00% per year; plus across the board salary increases of 0.50% per year; plus the following merit and promotional increases based on years of service:

| Years of Service | Merit and Promotional 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 less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 30% of the market value.

**Actuarial Cost Method:** Entry Age Actuarial 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.<br><br>80% of future eligible retirees are assumed to enroll in EBMUD medical insurance plans and receive the implicit subsidy.<br><br>For deferred vested members, we assume an election equal to 50% of the future retiree election percent. |
| **Average HIB subsidy:** | For current retirees, we have used the HIB benefit on record. For future retirees, we have assumed that:<br>Retirees under age 65 with single HIB coverage will receive an average $450 monthly benefit as of July 1, 2014,<br>Retirees under age 65 with spouse HIB coverage will receive an average $540 monthly benefit as of July 1, 2014,<br>Retirees age 65 and over with single HIB coverage will receive an average $427 monthly benefit as of July 1, 2014,<br>Retirees age 65 and over with spouse HIB coverage will receive an average $531 monthly benefit as of July 1, 2014. |
| **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. |

**Carrier Election And Monthly Premiums – Participant Under Age 65:**

| 2014 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | $598.98 | $1,197.96 | $598.98 |
| Blue Cross | $720.57 | $1,645.36 | $720.57 |
| Health Net | $982.28 | $1,964.56 | $982.28 |

| 2015 Calendar Year | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|
| **CARRIER** | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | $572.53 | $1,145.06 | $572.53 |
| Blue Cross | $742.90 | $1,512.57 | $742.90 |
| Health Net | $1,079.32 | $2,158.63 | $1,079.32 |

| 2014-2015 Fiscal Year | | Single Party | Married/With Domestic Partner | Eligible Survivor |
|---|---|---|---|---|
| **CARRIER** | Election Percent | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | **70** | $585.76 | $1,171.51 | $585.57 |
| Blue Cross | **20** | $731.74 | $1,578.97 | $731.74 |
| Health Net | **10** | $1,030.80 | $2,061.60 | $1,030.80 |

**Carrier Election and Monthly Premiums – Participant Age 65 and Older:**

| **2014 Calendar Year** | | **Single Party** | **Married/With Domestic Partner** | **Eligible Survivor** |
|---|---|---|---|---|
| **CARRIER** | | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | | $312.80 | $625.60 | $312.80 |
| Blue Cross | | $518.75 | $1,228.56 | $518.75 |
| Health Net | | $539.52 | $1,079.04 | $539.52 |

| **2015 Calendar Year** | | **Single Party** | **Married/With Domestic Partner** | **Eligible Survivor** |
|---|---|---|---|---|
| **CARRIER** | | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser* | | $311.35 | $622.70 | $311.35 |
| Blue Cross | | $484.74 | $985.84 | $484.74 |
| Health Net | | $566.50 | $1,133.00 | $566.50 |

| **2014-2015 Fiscal Year** | | **Single Party** | **Married/With Domestic Partner** | **Eligible Survivor** |
|---|---|---|---|---|
| **CARRIER** | Election Percent | Monthly Premium | Monthly Premium | Monthly Premium |
| Kaiser | **60** | $312.08 | $624.15 | $312.08 |
| Blue Cross | **28** | $501.75 | $1,107.20 | $501.75 |
| Health Net | **12** | $553.01 | $1,106.02 | $553.01 |

**We assume all future Kaiser Medicare retirees will elect the High option.*

**Health care cost trend rates**

Trends to be applied in following fiscal years, to all health plans

Trends to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium

First Fiscal Year (July 1, 2015 through June 30, 2016)

| PLAN | | Kaiser | HealthNet | Blue Cross |
|---|---|---|---|---|
| Trend to be applied to 2014-2015 Fiscal Year premium | | 1.16% | 8.37% | 5.08% |
| | | 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 |
| 2015-2016 | 6.875% | 2015 | 7.00% | 7.00% |
| 2016-2017 | 6.625% | 2016 | 6.75 | 6.75 |
| 2017-2018 | 6.375% | 2017 | 6.50 | 6.50 |
| 2018-2019 | 6.125% | 2018 | 6.25 | 6.25 |
| 2019-2020 | 5.875% | 2019 | 6.00 | 6.00 |
| 2020-2021 | 5.625% | 2020 | 5.75 | 5.75 |
| 2021-2022 | 5.375% | 2021 | 5.50 | 5.50 |
| 2022-2023 | 5.125% | 2022 | 5.25 | 5.25 |
| 2023-2024 and later | 5.000% | 2023 and later | 5.00 | 5.00 |

**Implicit Subsidy** Retiree under age 65 and active health insurance premiums have been underwritten together. Under GASB, the health care costs must be valued as if the under age 65 retirees had been underwritten separately from the actives. Any excess of the retiree only per capita costs over the blended active/retiree premiums is the implicit subsidy. The tables below show the annual implicit subsidies for sample ages under different carriers. No implicit subsidy exists for retirees over age 65.

## KAISER

Annual Blended Active/Retiree Premium $7,029

**Annual Per Capita Costs**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $7,734 | $8,810 | $5,402 | $7,074 |
| 55 | 9,185 | 9,483 | 7,229 | 8,188 |
| 60 | 10,908 | 10,222 | 9,678 | 9,496 |
| 64 | 12,515 | 10,843 | 12,217 | 10,688 |

**Annual Implicit Subsidy Rates**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $705 | $1,781 | -$1,627 | $45 |
| 55 | 2,156 | 2,454 | 200 | 1,159 |
| 60 | 3,879 | 3,193 | 2,649 | 2,467 |
| 64 | 5,486 | 3,814 | 5,188 | 3,659 |

## HEALTH NET

Annual Blended Active/Retiree Premium $12,370

**Annual Per Capita Costs**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $12,519 | $14,260 | $8,744 | $11,450 |
| 55 | 14,868 | 15,350 | 11,701 | 13,253 |
| 60 | 17,657 | 16,545 | 15,665 | 15,371 |
| 64 | 20,257 | 17,552 | 19,775 | 17,300 |

**Annual Implicit Subsidy Rates**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $149 | $1,890 | -$3,626 | -$920 |
| 55 | 2,498 | 2,980 | -669 | 883 |
| 60 | 5,287 | 4,175 | 3,295 | 3,001 |
| 64 | 7,887 | 5,182 | 7,405 | 4,930 |

### Implicit Subsidy (Continued)

**BLUE CROSS**

Annual Blended Active/Retiree Premium $8,781

**Annual Per Capita Costs**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $8,277 | $9,427 | $5,781 | $7,570 |
| 55 | 9,829 | 10,148 | 7,736 | 8,762 |
| 60 | 11,673 | 10,939 | 10,356 | 10,162 |
| 64 | 13,392 | 11,604 | 13,074 | 11,438 |

**Annual Implicit Subsidy Rates**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | -$504 | $646 | -$3,000 | -$1,211 |
| 55 | 1,048 | 1,367 | -1,045 | -19 |
| 60 | 2,892 | 2,158 | 1,575 | 1,381 |
| 64 | 4,611 | 2,823 | 4,293 | 2,657 |

**WEIGHTED AVERAGE, Use for future retirees**

Annual Blended Active/Retiree Premium $7,914

**Annual Per Capita Costs**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $8,321 | $9,478 | $5,812 | $7,610 |
| 55 | 9,882 | 10,203 | 7,778 | 8,809 |
| 60 | 11,736 | 10,997 | 10,412 | 10,217 |
| 64 | 13,464 | 11,666 | 13,144 | 11,499 |

**Annual Implicit Subsidy Rates**

| Age | Retiree | | Spouse | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 50 | $407 | $1,564 | -$2,102 | -$304 |
| 55 | 1,968 | 2,289 | -136 | 895 |
| 60 | 3,822 | 3,083 | 2,498 | 2,303 |
| 64 | 5,550 | 3,752 | 5,230 | 3,585 |

| | |
|---|---|
| **Changes in Actuarial Assumptions** | The per capita costs, medical election assumption, trends and premiums for calculating the implicit subsidy were updated.<br>The average HIB subsidy assumed for future retirees was updated.<br>The inflation component of the salary increase assumption was lowered from 3.25% to 3.00%. |

**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;<br>Age 62 with 5 years of service;<br>Age 59 with 20 years of service;<br>Age 54 with 30 years of service;<br>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 financially dependent registered domestic partners) is paid to retirees with at least five years of full-time service to reimburse employee-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 may receive a Health Insurance Benefit of up to $450 per month.

## EXHIBIT IV
### Definitions of Terms

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

**Assumptions or Actuarial Assumptions:** The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Actuarial Present Value of Total Projected Benefits (APB):** Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

**Normal Cost:** The amount of contributions required to fund the benefit allocated to the current year of service.

**Actuarial Accrued Liability For Actives:** The equivalent of the accumulated normal costs allocated to the years before the valuation date.

**Actuarial Accrued Liability For Retirees:** The single sum value of lifetime benefits to existing retirees. This sum takes account of life expectancies appropriate to the ages of the retirees and of the interest which the sum is expected to earn before it is entirely paid out in benefits.

| | |
|---|---|
| **Actuarial Value of Assets (AVA):** | The value of assets used by the actuary in the valuation. These may be at market value or some other method used to smooth variations in market value from one valuation to the next. |
| **Funded Ratio:** | The ratio AVA/AAL. |
| **Unfunded Actuarial Accrued Liability (UAAL):** | The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time. |
| **Amortization of the Unfunded Actuarial Accrued Liability:** | Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability. |
| **Investment Return (discount rate):** | The rate of earnings of the Plan 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. If the plan is funded on a pay-as-you-go basis, the discount rate is tied to the expected rate of return on day-to-day employer funds. |
| **Covered Payroll:** | Annual reported salaries for all active participants on the valuation date. |
| **ARC as a Percentage of Covered Payroll:** | The ratio of the annual required contribution to covered payroll. |
| **Health Care Cost Trend Rates:** | The annual rate of increase in net claims costs per individual benefiting from the Plan. |
| **Annual Required Contribution (ARC):** | The ARC is equal to the sum of the normal cost and the amortization of the unfunded actuarial accrued liability. |

**Net OPEB Obligation (NOO):** The NOO is the cumulative difference between the ARC and actual contributions made. If the plan is not pre-funded, the actual contribution would be equal to the annual benefit payments less retiree contributions. There are additional adjustments in the NOO calculations to adjust for timing differences between cash and accrual accounting, and to prevent double counting of OPEB plan costs.

**EXHIBIT V**

**Accounting Requirements**

The Governmental Accounting Standards Board (GASB) issued Statement Number 43 – *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and Statement Number 45 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions.* Under these statements, all state and local government entities that provide other post employment benefits (OPEB) are required to report the cost of these benefits on their financial statements. The accounting standards supplement cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (*i.e.*, a pay-as-you-go basis).

The statements cover postemployment benefits of health, prescription drug, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. The benefits valued in this report are limited to those described in Exhibit III of Section 4, which are based on those provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits is not limited by legal or contractual limits on funding the plan unless those limits clearly translate into benefit limits on the substantive plan being valued.

The new standards introduce an accrual-basis accounting requirement, thereby recognizing the employer cost of postemployment benefits over an employee's career. The standards also introduce a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. These assumptions are summarized in Exhibit II of Section 4. This amount is then discounted to determine the actuarial present value of the total projected benefits (APB). The actuarial accrued liability (AAL) is the portion of the present value of the total projected benefits allocated to years of employment prior to the measurement date. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and actuarial value of assets in the Plan.

Once the UAAL is determined, the Annual Required Contribution (ARC) is determined as the normal cost (the APB allocated to the current year of service) and the amortization of the UAAL. This ARC is compared to actual contributions made and any difference is reported as the Net OPEB Obligation (NOO). In addition, Required Supplementary Information (RSI) must be reported, including historical information about the UAAL and the progress in funding the Plan. Exhibits IV and VI of

Section 4 contain a definition of terms as well as more information about GASB 43/45 concepts.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

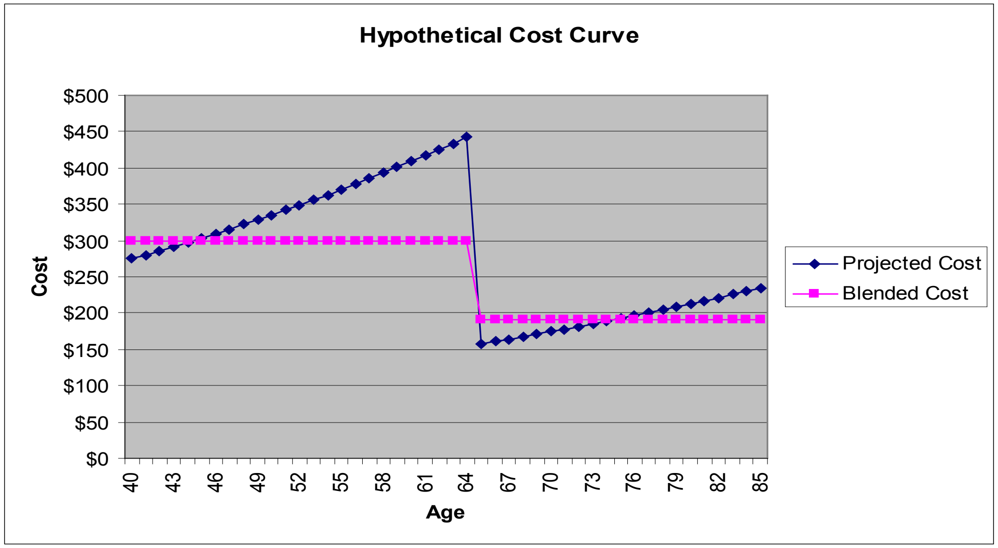
Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short term volatility in accrued liabilities and the actuarial value of assets, if any.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

**EXHIBIT VI**

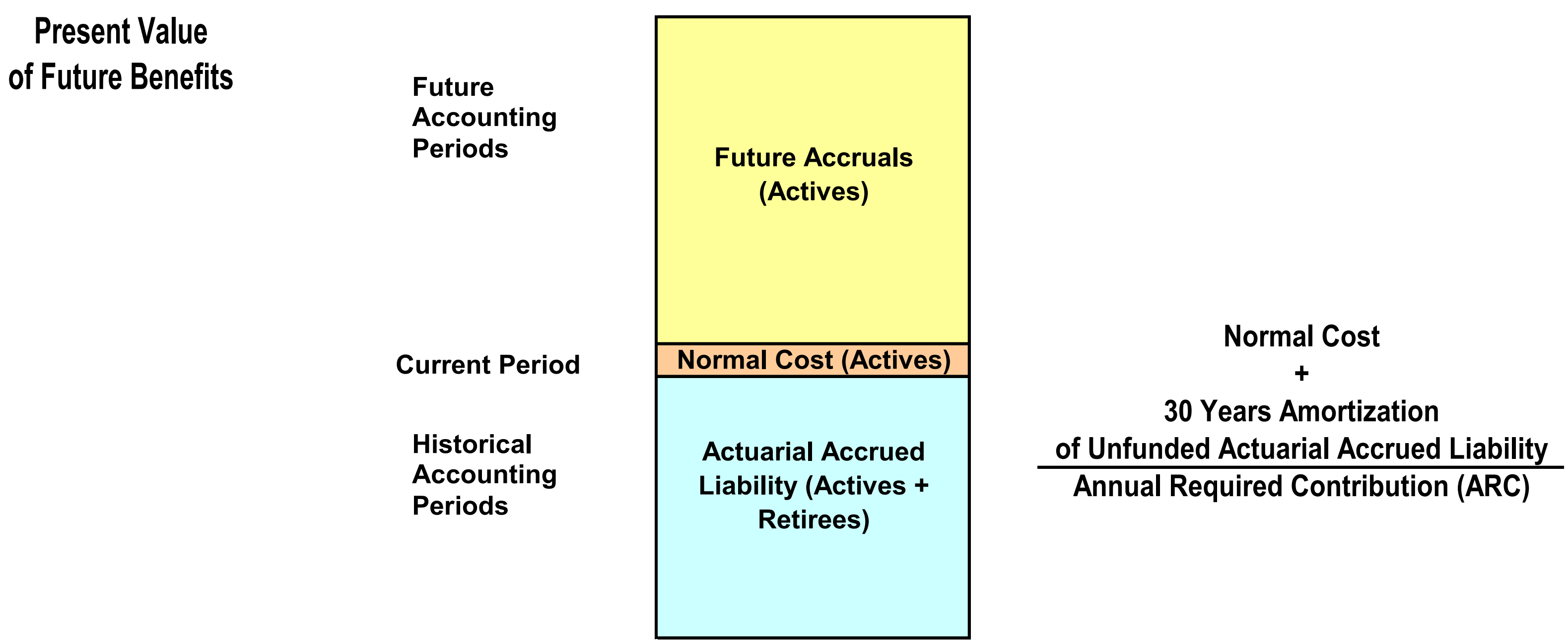
**GASB 43/45 Concepts**

The following graph illustrates why a significant accounting obligation may exist even though the retiree contributes most or all of the blended premium cost of the plan. The average cost for retirees is likely to exceed the average cost for the whole group, leading to an implicit subsidy for these retirees. The accounting standard requires the employer to identify and account for this implicit subsidy as well as any explicit subsidies the employer may provide.



This graph shows how the actuarial present value of the total projected benefits (APB) is broken down and allocated to various accounting periods. The exact breakdown depends on the actuarial cost method and amortization methods selected by the employer.

## GASB 43/45 Measurement
## Elements Using Actuarial Cost Methods




**Net OPEB Obligation = $ARC_1 + ARC_2 + ARC_3 +$ ......**
**$- Contribution_1 - Contribution_2 - Contribution_3 -$ ......**

5345098v1/10419.001

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Sr. Human Resource Analyst

THROUGH: Lisa Sorani, Manager of Employee Services

SUBJECT: Crediting Interest Rate on Member Contributions

ACTION: Vote on Resolution No. 6815

## RECOMMENDATION

Approve Resolution No. 6815

## BACKGROUND

The Retirement Ordinance, Section 4(d), directs the Retirement Board to semi-annually declare the rate of interest to be credited to accumulated Member contributions.

In accordance with Retirement Board Rule B-9, the annual rate of interest credited to member contributions will be the lesser of the actuarially assumed rate of interest or the five (5) year average rate of return on Retirement System investments for the period ending June 30, 2014. The actuarially assumed rate of interest is 7.75%, and the five year average rate of return as of June 30, 2014 was 15.00%.

Therefore, Resolution No. 6815 declares that on December 31, 2014, interest will be credited to the balance of member contributions as of June 30, 2014 at the annual rate of 7.75%.

The rate credited to the member’s account will be prorated to a semi-annual rate of 3.875%.

EG:ls

R.B. RESOLUTION NO. 6815

DECLARING THE INTEREST RATE

Introduced by: ; Seconded by:

WHEREAS, section 4(d) of Ordinance, as amended, provides that the Retirement Board shall semi-annually declare the rate of interest for the preceding six (6) months to be credited on accumulated contributions of members, which rate shall be based upon criteria to be established by the Retirement Board; and

WHEREAS, the crediting rate shall be the actuarial assumed rate of seven and three quarters percent (7.75%) but not to exceed the actual five (5) year earnings rate of the fund, determined to be fifteen percent (15.00 %) for the period ending June 30, 2014;

NOW THEREFORE, BE IT RESOLVED that the Retirement Board does hereby declare a seven and three quarters percent (7.75%) annual interest rate. The rate credited to member's account will be three and eighty-seven and a half percent (3.875%) for the six (6) month period ending December 31, 2014 in accordance with Rule B-9 of Retirement Board.

President

ATTEST:

Secretary

01/15/2015

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: January 15, 2015

MEMO TO: Retirement Board

THROUGH: Lisa Sorani, Manager of Employee Services L.S.

FROM: Elizabeth Grassetti, Sr. Human Resources Analyst

SUBJECT: Draft Retirement Board Training Policy

**SUMMARY**
The Retirement Board has asked for staff to develop a training policy for Retirement Board Members in order to establish minimum training standards and to provide a process for the authorization, reimbursement and tracking of training.

**DISCUSSION**
Retirement Board Members have a fiduciary responsibility to manage the retirement system, and with this responsibility comes the need for training and information on benefits, financial, actuarial and policy information, and current economic and political events. The following proposed training policy would provide for a minimum training standard, a process for authorizing and reimbursing for training, and a process for tracking training. Once approved, the policy would become a new Retirement Board Rule.

The proposed policy is below:

<u>Draft Retirement Board Training Policy</u>

In order for Retirement Board Members to carry out their fiduciary duties, Board Members need to receive training and information on current benefits, financial, actuarial, and policy information pertinent to the administration of public pension plans, and on the investment of public pension funds.

To accomplish this goal, Retirement Board Members are required are required to receive a minimum of 24 hours of education related to their duties as a Board member every two years. Appropriate topics may include, but are not limited to the following:

- Fiduciary responsibilities
- Ethics
- Pension fund investments and investment program management
- Actuarial studies
- Pension funding
- Retirement benefits administration

- Pension fund governance
- New board member orientation

Retirement Board Members may attend educational seminars and conferences sponsored by state and national public pension fund organizations, academic institutions, and similar sponsors.

Additionally, educational sessions held during EBMUD's Retirement Board meetings will be counted toward compliance with this policy.

Tracking:
Compliance with this policy will be monitored by the Secretary of the Board. Retirement Board Members will provide certificates of completion or other proof of training to the Secretary of the Board or designee. Staff will provide annual updates as to their progress toward the requirement.

Budgeting:
Retirement Board Training is considered a plan expense and will be provided for in the retirement system budget. District employees who are Retirement Board members will charge training time to the Retirement System. Staff will apprise the Retirement Board of the amount budgeted for training annually. Retirement Board Members are encouraged to take advantage of local and in-State training opportunities offered by CALAPRS and/or other providers whenever possible.

Requesting Training:
Retirement Board Members will obtain authorization from President of the Board prior to attending training. The President of the Board will obtain approval from the Vice-President of the Board. Training requests will include the title of the training, sponsor, location, tuition and fees, estimated travel expenses, and training hours. The President of the Board will verify that budgeted funds are available as part of the authorization process. Retirement Board Members who are employees of the District will also be required to obtain written approval from their Supervisor for any time away from their regular duties prior to submitting the request to the President. The President will provide approval or denial of request within one week of receipt.

Training Reimbursement:
After completion of the training or conference, Board Members will provide a full expense accounting and reimbursement request and certificates of completion or other proof of attendance to President of the Board and the Secretary of the Board. The Secretary of the Board will approve the reimbursement request, and coordinate the reimbursement with the Finance Department. Retirement Board Members will provide certificates of completion or other proof of training to the Secretary of the Board or designee.

LS:eg

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Sr. Human Resource Analyst

THROUGH: Lisa Sorani, Manager of Employee Services L.S.

SUBJECT: Training Opportunities in 2015

As requested by the Retirement Board, attached is information regarding CALAPRS courses and conferences that provide training suitable for trustees of public retirement systems. CALAPRS provides cost-effective, quality training opportunities, with minimal travel required.

The proposed Retirement Board Training policy requires 24 hours of training every two years. Board Members are also required to take an ethics training course every two years. This requirement can be fulfilled by attending training or by doing online coursework. Staff will track compliance.

CALAPRS

EDUCATION • COMMUNICATION • NETWORKING

# 2015 Program Calendar

| Date | Meeting | Location |
|---|---|---|
| Friday, January 23, 2015 | Administrators RT<br>Attorneys' RT | DoubleTree San Jose |
| Wednesday - Friday<br>January 28-30, 2015 | Advanced Principles of Pension Management for Trustees | UCLA Anderson School of Business |
| Friday, February 6, 2015 | Trustees' RT<br>Benefits RT<br>Investment Officers RT | DoubleTree San Jose |
| Saturday-Tuesday<br>March 7-10, 2015 | General Assembly | Monterey Marriott - Monterey, CA |
| Tuesday, March 10, 2015 | Board Meeting (7am Breakfast) | Monterey Marriott - Monterey, CA |
| Friday, April 17, 2015 | Accountants RT<br>Administrative Assistants RT<br>Info Tech. RT | DoubleTree San Jose |
| Monday- Tuesday<br>April 20-21, 2015 | Management Academy: Module 1 | Westin Pasadena |
| Friday, May 8, 2015 | Overview Staff Training (Palmer) | Westin LAX |
| Monday- Wednesday<br>June 1-3, 2015 | Management Academy: Module 2 | Westin Pasadena |
| Thursday, June 11, 2015 | Communications RT | Marriott Burbank |
| Friday, June 12, 2015 | Benefits RT<br>Trustee's RT<br>Investment Officers' RT | Marriott Burbank |
| Thursday, June 18, 2015 | Board Meeting (6pm Dinner) | Westin LAX |
| Friday, June 19, 2015 | Administrators' RT<br>Attorneys RT | Westin LAX |
| Monday- Wednesday<br>July 20-22, 2015 | Management Academy: Module 3 | Westin Pasadena |
| Tuesday - Friday<br>August 25-28, 2015 | Principles of Pension Management<br>*A Course for Trustees at Pepperdine University* | Pepperdine University<br>*New Location* |
| Thursday, September 17, 2015 | Disability Staff Training | DoubleTree San Jose |
| Friday, September 18, 2015 | Benefits RT<br>Attorneys' RT<br>Trustees' RT | DoubleTree San Jose |
| Wednesday- Friday<br>September 30 - October 2, 2015 | Administrators Institute | Quail Lodge - Carmel, CA |
| Wednesday- Friday<br>October 7-9, 2015 | Intermediate Staff Training | DoubleTree San Jose |
| Friday, October 23, 2015 | Accountants' RT<br>Administrative Asst. RT<br>Info Tech RT | Marriott Burbank |
| Friday, November 6, 2015 | Overview Staff Training (Palmer) | DoubleTree San Jose |
| Wednesday- Friday<br>December 2-4, 2015 | Advanced Staff Training | DoubleTree San Jose |
| Friday, December 4, 2015 | Board Meeting (9am Breakfast) | DoubleTree San Jose |

** For 2015, CALAPRS selected a new location for this popular training course. Now at the Pepperdine University Executive Center, adjacent to Pepperdine's graduate schools, CALAPRS continues to offer the same high-caliber coursework and faculty it has offered for the past twenty years on the Stanford University campus.*

**575 Market Street, Suite 2125, San Francisco, CA 94105**
**P: 415.764.4860 F: 415.764.4915 register@calaprs.org www.calaprs.org**

**EAST BAY MUNICIPAL UTILITY DISTRICT**

DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Eric L. Sandler, Director of Finance

SUBJECT: Employee Retirement System Education Modules

## SUMMARY

The ERS Board has expressed interest in developing a series of ERS Board education modules. Training could cover areas such as fiduciary responsibility, ethics, pension fund investment and investment management, actuarial matters, pension funding, benefits administration, disability evaluation, due process, and pension fund governance. To address pension fund investment and investment management education, staff proposes to hold 30 minute training sessions including time for questions and answers at each of the ERS Board meetings during calendar year 2015. The goal of the sessions will be to discuss each of the asset classes in the current portfolio, as well as issues related to Environmental, Social, and Governance (ESG) investing.

## BACKGROUND

Each of the District's ERS Board members is provided a new Board member orientation, attends a comprehensive pension investment management program offered by Stanford University called Principles of Pension Management for Trustees upon the start of their term, and receives mandatory ethics training under AB 1234 every two years.

In 2012, the provisions of AB 1519 amended the County Employees Retirement Law of 1937 ("CERL") to require mandatory training for all trustees of county retirement systems. The law, which does not apply to trustees of any other public retirement systems, requires: (1) county retirement Boards to adopt a policy requiring continuing education for retirement Board members; (2) Board members to receive a minimum of 24 hours of training within the first 2 years of assuming office and every 2 years thereafter; (3) maintain records of completion of training; and (4) post the training policy and annual report of Board member compliance on the retirement system's website.

While the ERS is not subject to CERL, the ERS Board has expressed interest in Board education. ERS staff has developed a proposed plan which will provide 3 hours of in-session education as part of regularly scheduled Board meetings over the next year. Concurrently, a formal process for budgeting and obtaining approval for external extra-session trainings is being developed by ERS staff.

The following are proposed in-session trainings on pension fund investment and investment management for 2015:

January – International Equities
March – Domestic Equities
May – Fixed Income
July – Non-Core Fixed Income
September – Real Estate
November – ESG

The trainings will be conducted by ERS investment consultant PCA, ERS staff, and outside parties as needed. An asset class training session may be followed by a presentation from an ERS portfolio manager who manages assets in that class. For example in January, following the International Equities training, the Board will receive a presentation from Fisher Investments, one of the ERS's two international equities managers. This presentation or others from ERS fund managers are not educational trainings but will provide information about ERS specific holdings and allow the Board to ask questions informed by the training.

These sessions are designed to supplement, not replace, planned trainings on topics such as fiduciary responsibility and ethics, which will continue to be held. ERS staff will maintain records of training completed by each Board member.

ESL:SS:DB

# REVIEW OF THE INTERNATIONAL EQUITY ASSET CLASS

EBMUD Employees' Retirement System

January 2015

PCA
PENSION
CONSULTING
ALLIANCE

# Agenda Items



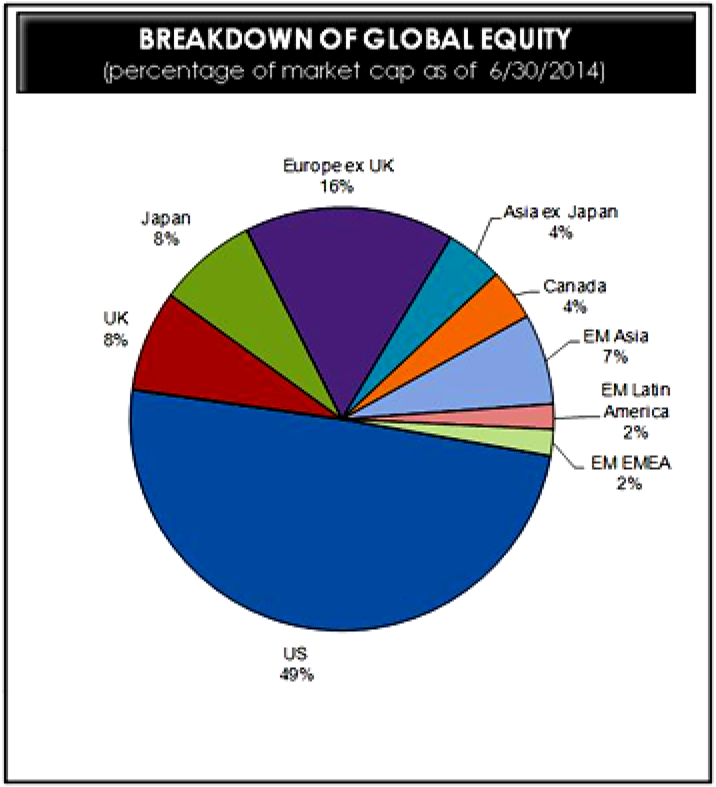


PENSION CONSULTING ALLIANCE

# Section 1: International Equity Asset Class

# International Equity Asset Class

- The International Equity asset class is composed of stocks issued by corporations domiciled outside the United States
- International equities represents a large and important segment of the global capital markets
  - Over half of the global equity market is comprised of foreign stocks



# International Equity Asset Class

- Investing in International Equities opens up a much larger opportunity set then would be available to a US-only investor
- Many large, household name, companies are headquartered outside the US
- Not having exposure to these companies greatly limits an investor's opportunities

# International Equity Asset Class

- International Equities enables investors to gain exposure to different markets each with their own market dynamics
  - Different market conditions
  - Different economic growth trends
  - Different monetary and fiscal policy
  - Different business cycle
  - Different demographics
  - Different industry concentrations

- As economic globalization continues, there is strong evidence that global market integration continues to unfold

- Market liberalization has systematically reduced the barriers to capital mobility and enhanced the quality of market information and execution

- ¾ of world GDP and 95% of world population is outside the US

PCA PENSION CONSULTING ALLIANCE

# International Equity Asset Class

- International equities are divided into segments: developed and emerging
  - Developed markets are economies that exhibit relatively high income, openness to foreign ownership, ease of capital movement, and efficiency of market institutions
  - Emerging markets are economies that exhibit intermediate relative income, moderate openness in capital controls , and institutional development

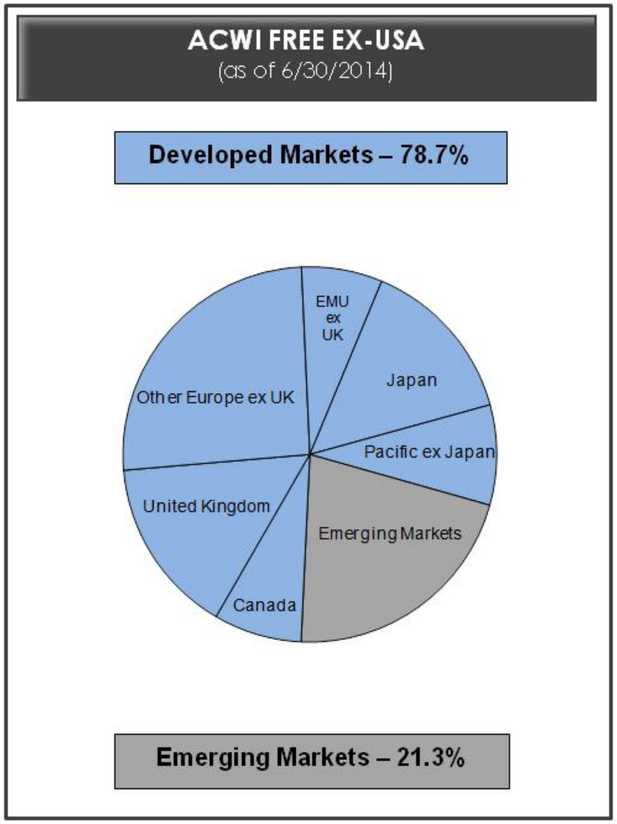
- Emerging market economies have experienced rapid growth over the past 30 years and now represent half of the global economy
  - Exposure to international equities, both developed and emerging, allow investors to invest in this growth

- Emerging market equities experience significantly more volatility than developed equities
  - Due to:
    - Less stable political environments
    - Less developed capital markets
    - More concentrated industry exposure
    - Contagion
    - Capital controls / capital flight

PCA PENSION CONSULTING ALLIANCE

# International Equity Asset Class

- The universe of international equities includes more than 6,000 publically traded stocks listed on major international exchanges
- The universe market capitalization is split approximately 80/20 between developed markets and emerging markets, respectively





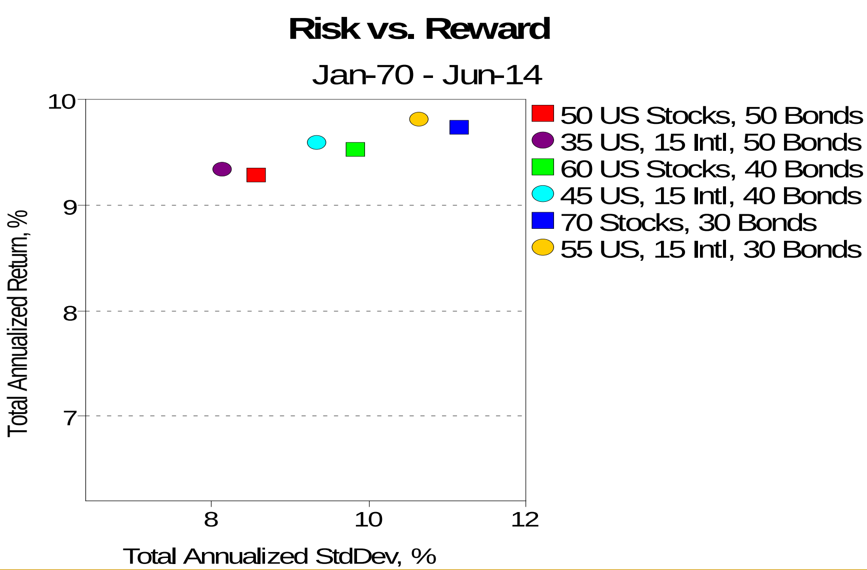

PCA PENSION CONSULTING ALLIANCE

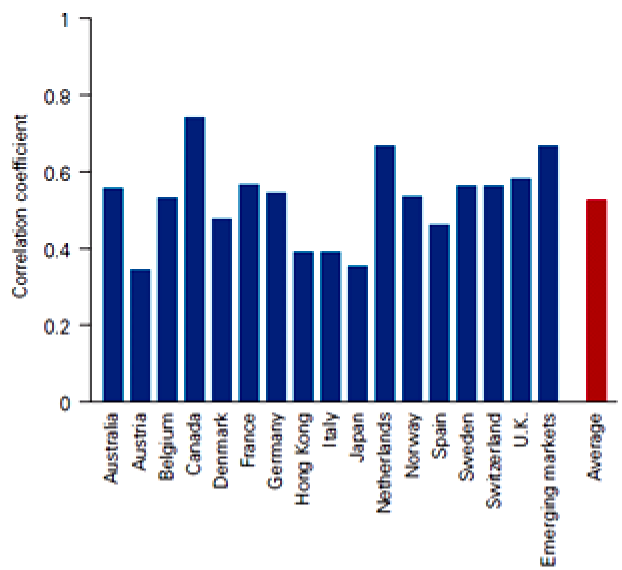
# International Equity Asset Class

- The International Equity asset class' role within a diversified portfolio is similar to that of US Equity – to provide high long-term returns

- In addition, International Equities also exhibit an important diversification benefit since International Equities are not completely correlated with other asset classes

- Allocating a portion of a portfolio to international stocks reduces volatility without impacting long-term returns



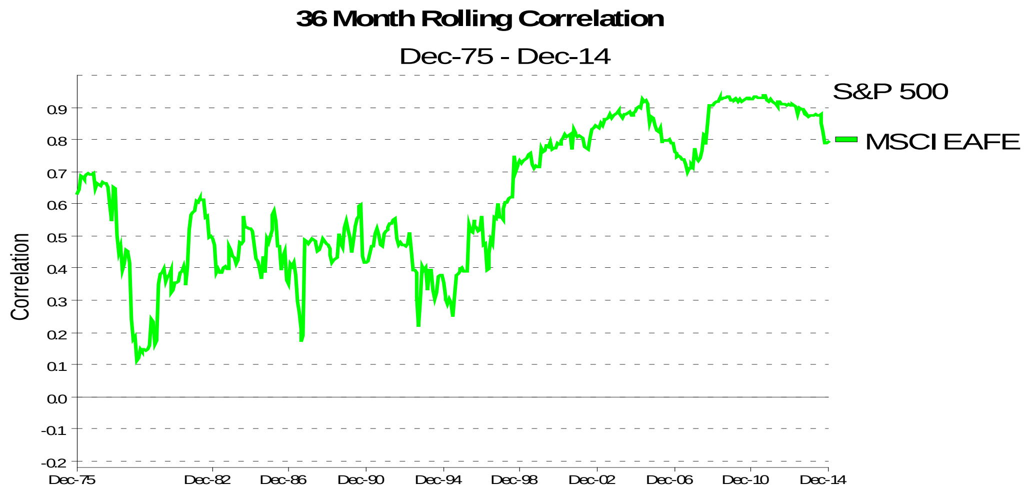



PENSION CONSULTING ALLIANCE

# International Equity Asset Class

- There are a unique set of risks associated with investing internationally
  1. Non-US markets tend to be more volatile than the US market due to unstable political and economic factors
  2. Non-US investments are also subject to currency risk for US-based investors
  3. Risk of non-US investments underperforming US investments for significant periods of time
  4. Capital controls and information quality/availability issues

- The diversification benefit of investing in international equities has lessened over time as globalization has increased the correlation of international markets





PENSION CONSULTING ALLIANCE

# Section 2: EBMUD International Equity Allocation

# EBMUD International Equity Allocation

- EBMUD currently gains exposure to international equities through two active investment managers
  - Franklin Templeton
  - Fisher Investments

- Both managers invest in developed and emerging market equities

- The objectives of the asset class are to:
  - Achieve a total return, net of fees, which exceeds the MSCI AC World ex US Index
  - Exceed inflation by 5% annually
  - Peer group results in the top third

- EBMUD has invested in international equities for over 20 years
  - Early exposure initially with Franklin Templeton and Wellington
  - Replaced Wellington with Putnam in 1997
  - Terminated Putnam in 2003
  - Hired Fisher in 2004
  - Changed benchmark from MSCI EAFE ND to MSCI ACWI ex US in 2007



PCA PENSION CONSULTING ALLIANCE

# EBMUD International Equity Allocation

On a regular basis, it is important to review the structure and performance of the different asset classes that comprise the EBMUD portfolio.

This review should focus on the three factors listed below in order to determine if the asset class under review is accomplishing its role within the greater EBMUD portfolio.

1. **Market Exposure**: Are the managers providing the desired capital market exposure (e.g. to foreign equities) that they were hired to provide?

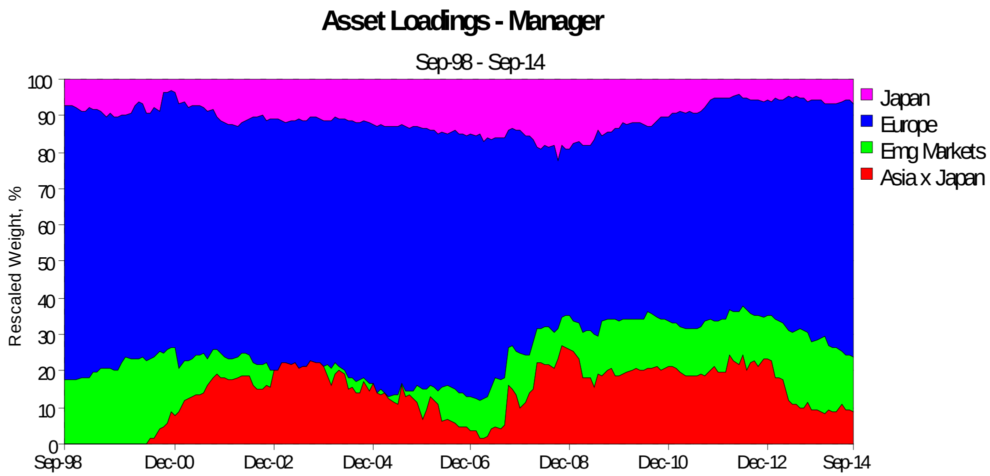
2. **Diversification**: Are the managers complementary to the other asset classes and to one another (exhibiting low correlation)?

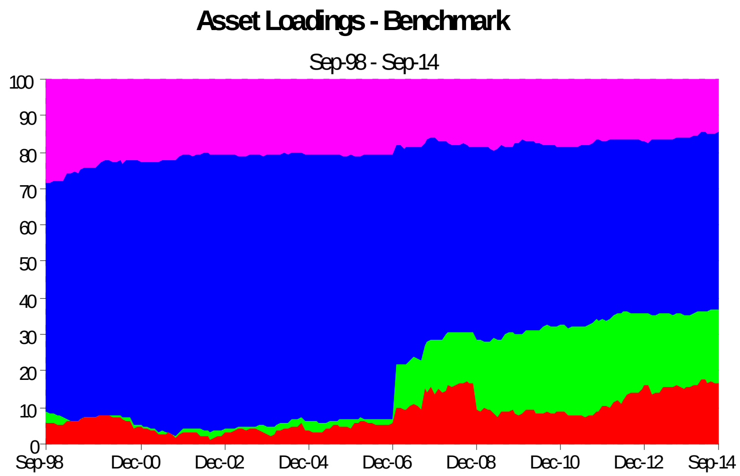
3. **Performance**: Has the asset class produced satisfactory returns and have active managers outperformed their benchmarks?

PCA PENSION CONSULTING ALLIANCE

# EBMUD International Equity Allocation

- EBMUD's international equity managers have consistently provided the desired capital market exposure
  - This is the most important characteristic due to the asset allocation process
  - Through the asset liability study process the Board determined an asset allocation that is best able to meet the liabilities of the System given the Plan's unique characteristics
  - As such, managers are hired to provide specific capital market exposure
  - If managers do not provide the desired exposure then the asset allocation will deviate from the policy allocation

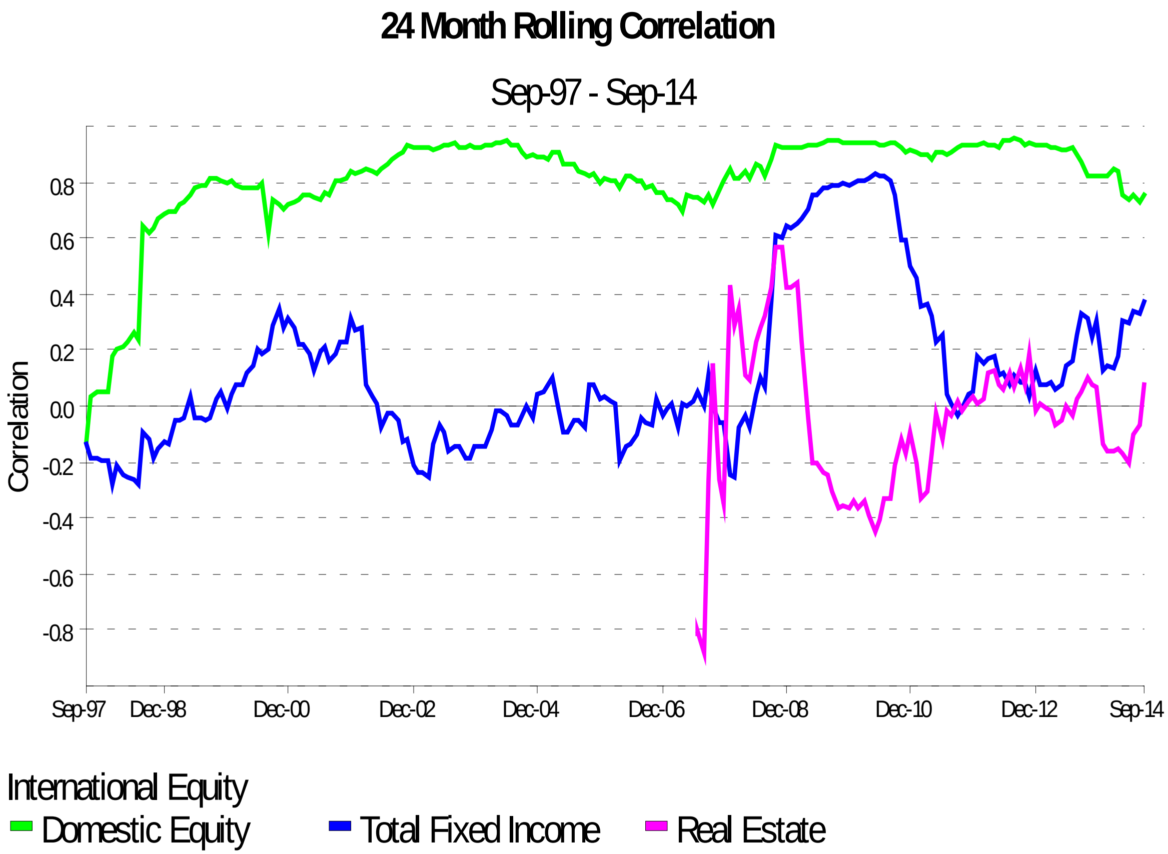



PCA PENSION CONSULTING ALLIANCE

# EBMUD International Equity Allocation

- EBMUD's international equity asset class exhibits low correlation to other asset classes within the portfolio – providing diversification

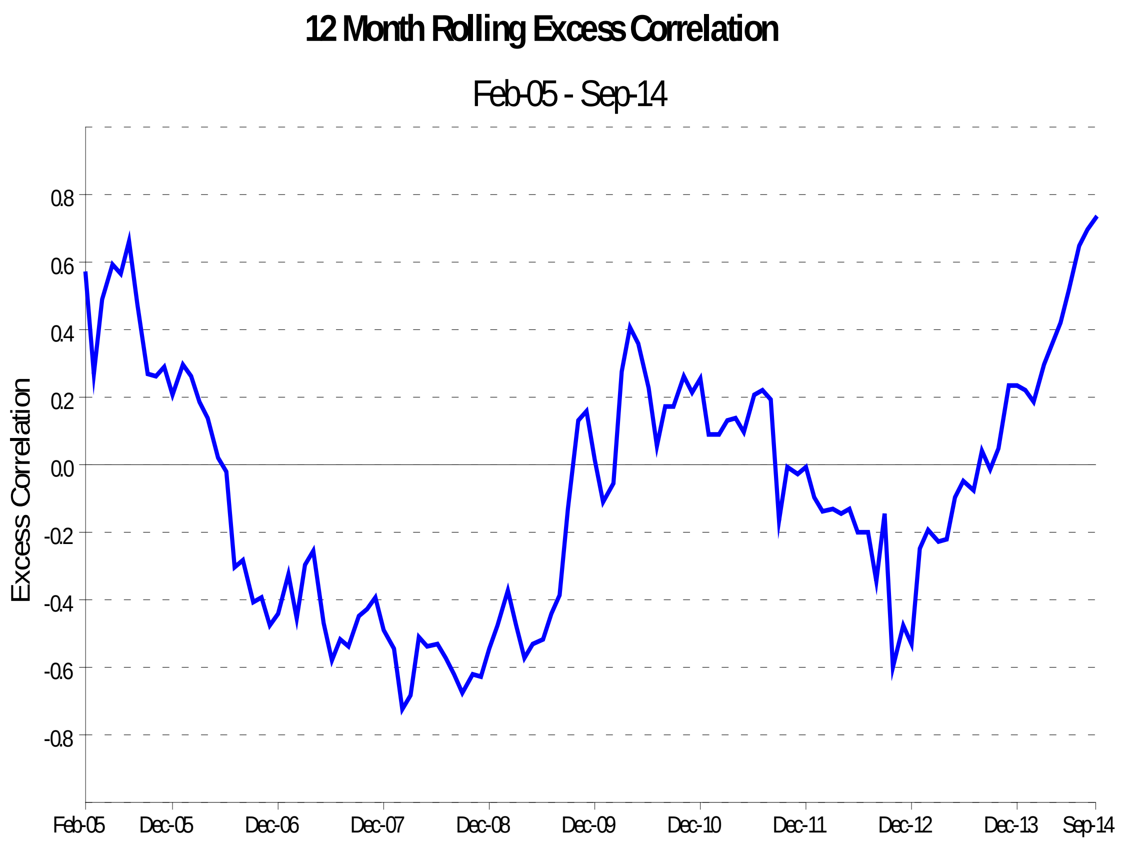





PCA PENSION CONSULTING ALLIANCE

# EBMUD International Equity Allocation

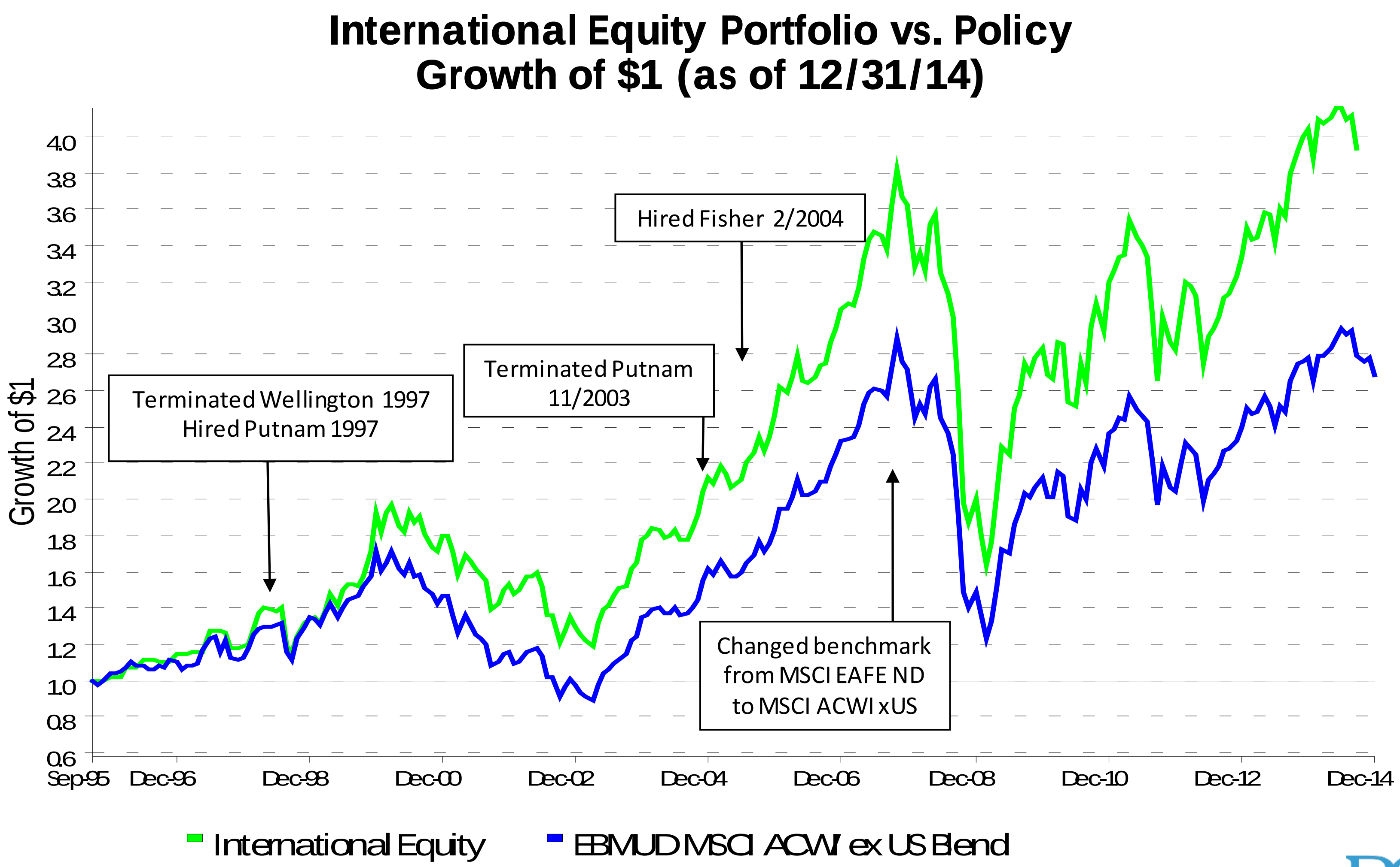
- Franklin Templeton and Fisher Investments have low active correlation to one another providing enhanced diversification benefit




PENSION CONSULTING ALLIANCE

# EBMUD International Equity Allocation

- The EBMUD portfolio has generated high returns over time and the active management of the portfolio has added value over time



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Fisher Investments™

Institutional Group

# Firm Overview

Investment Philosophy and Process

Portfolio and Strategy Overview

Benefits

Appendix

# FISHER INVESTMENTS

## AN OVERVIEW

- Founded by Kenneth Fisher in 1979; he remains on the Investment Policy Committee (IPC) to this day
- Our four member IPC averages 23 years at Fisher Investments
- We manage over $61 billion in assets with offices located in the United States, United Kingdom (Fisher Investments Europe), Australia (Fisher Investments Australasia) and Dubai
- We currently have 160 institutional clients across 20 countries
- Asset management is our only line of business
- We are 100% family and employee owned

*As of 11/30/2014*

# INVESTMENT POLICY COMMITTEE

## Kenneth L. Fisher

- ♦ 35 years at Fisher Investments

## Jeffery L. Silk

- ♦ 31 years at Fisher Investments

## William J. Glaser

- ♦ 15 years at Fisher Investments

## Aaron S. Anderson

- ♦ 9 years at Fisher Investments

Members of the Investment Policy Committee, from left:

William J. Glaser, Executive Vice President of Portfolio Management
Kenneth L. Fisher, CEO, Co-CIO
Aaron S. Anderson, Senior Vice President of Research
Jeffery L. Silk, Vice Chairman, Co-CIO

# RESEARCH GROUP
# STRUCTURE AND FUNCTIONS


- Global Macro Economic, Political, Sentiment Analysis
- Theme Development
- Regional / Country Coverage
- Global Sector / Industry Coverage

- Fundamental Security Analysis
- Global Sector / Industry Coverage
- Monitor Portfolio Holdings

- Development / Modification of Portfolio Drivers
- Quantitative Investment Analysis
- Risk Management, Measurement and Modeling
- Performance Attribution

- Implementation of Model Portfolios (Constructed by IPC)
- Order Generation
- Cash Flows & Portfolio Rebalancing

*Please see the Firm Disclosure in the Appendix.*

# CLIENT SERVICES

# OUR RESOURCES ARE YOUR RESOURCES

### VP Relationship Manager

- Primary point of contact
- Portfolio reviews, detail portfolio posture and capital markets outlook
- Investment consultant communications
- Coordinate firm resources on client's behalf

### Research Group

- Client directed research projects
- Innovative capital markets analysis
- Investment books, sector guides
- Investor communications
  - Marketminder.com
  - Financial press

East Bay Municipal Utility District

### Client Operations

- Manage account on-boarding process
  - Investment management agreement
  - Custodian relations
- Account cash flows
- Compliance reporting

### Client Reporting

- Fully customized portfolio reporting
  - Performance and performance attribution
  - Portfolio weights
  - Transaction detail and rationale
  - Valuation

**2000-2013 average annual institutional client asset retention = 97.5%**

*Average of each year's client retention rate, from 01/01/2000 through 12/31/2013, where client retention rate = 1 – [sum of(assets terminated in year/average total assets in year)]/number of years.*

Firm Overview

# Investment Philosophy and Process

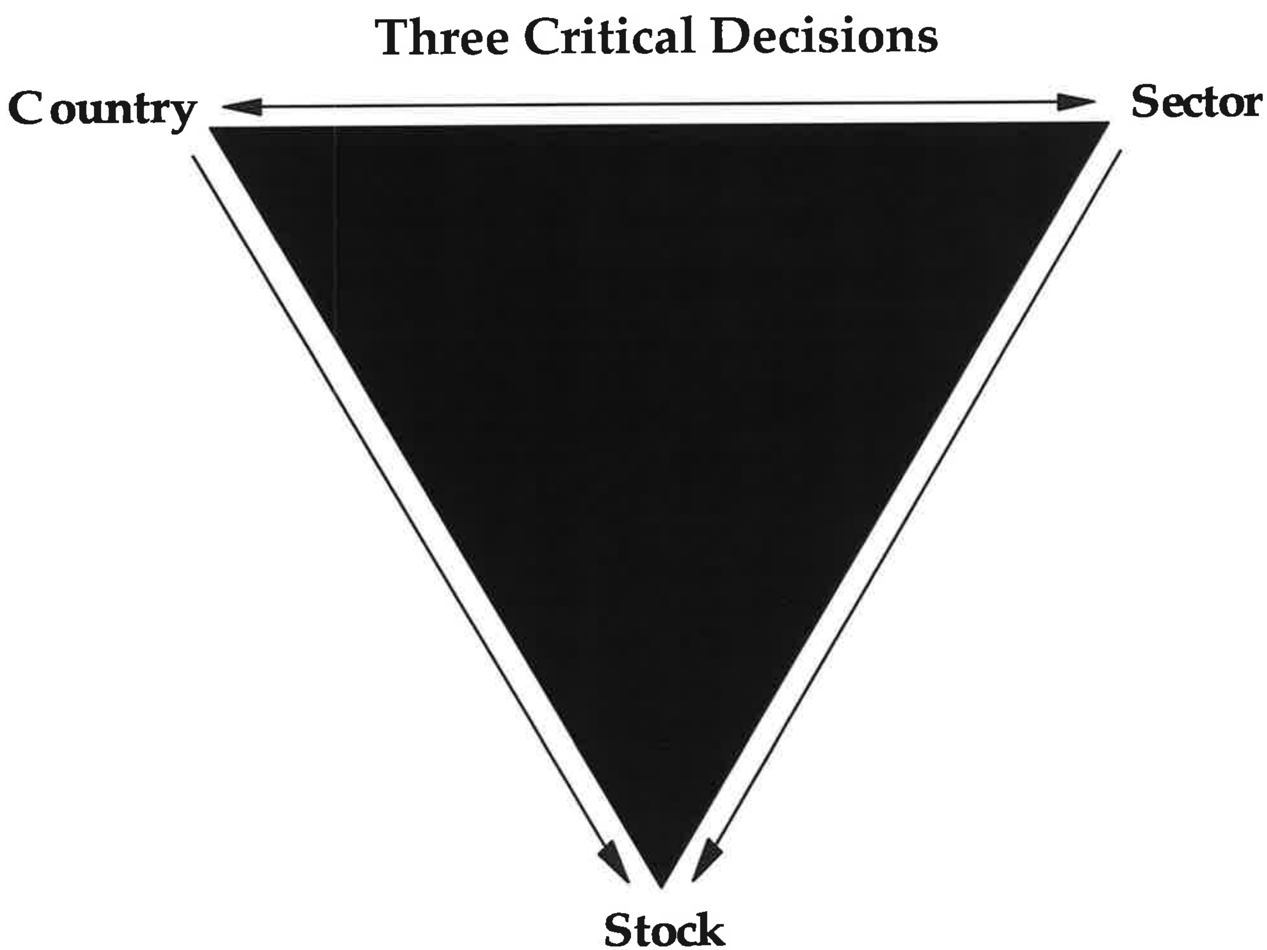
Portfolio and Strategy Overview

Benefits

Appendix

# GLOBAL MARKET STRUCTURE

## THREE PRIMARY DETERMINANTS OF PORTFOLIO RETURN

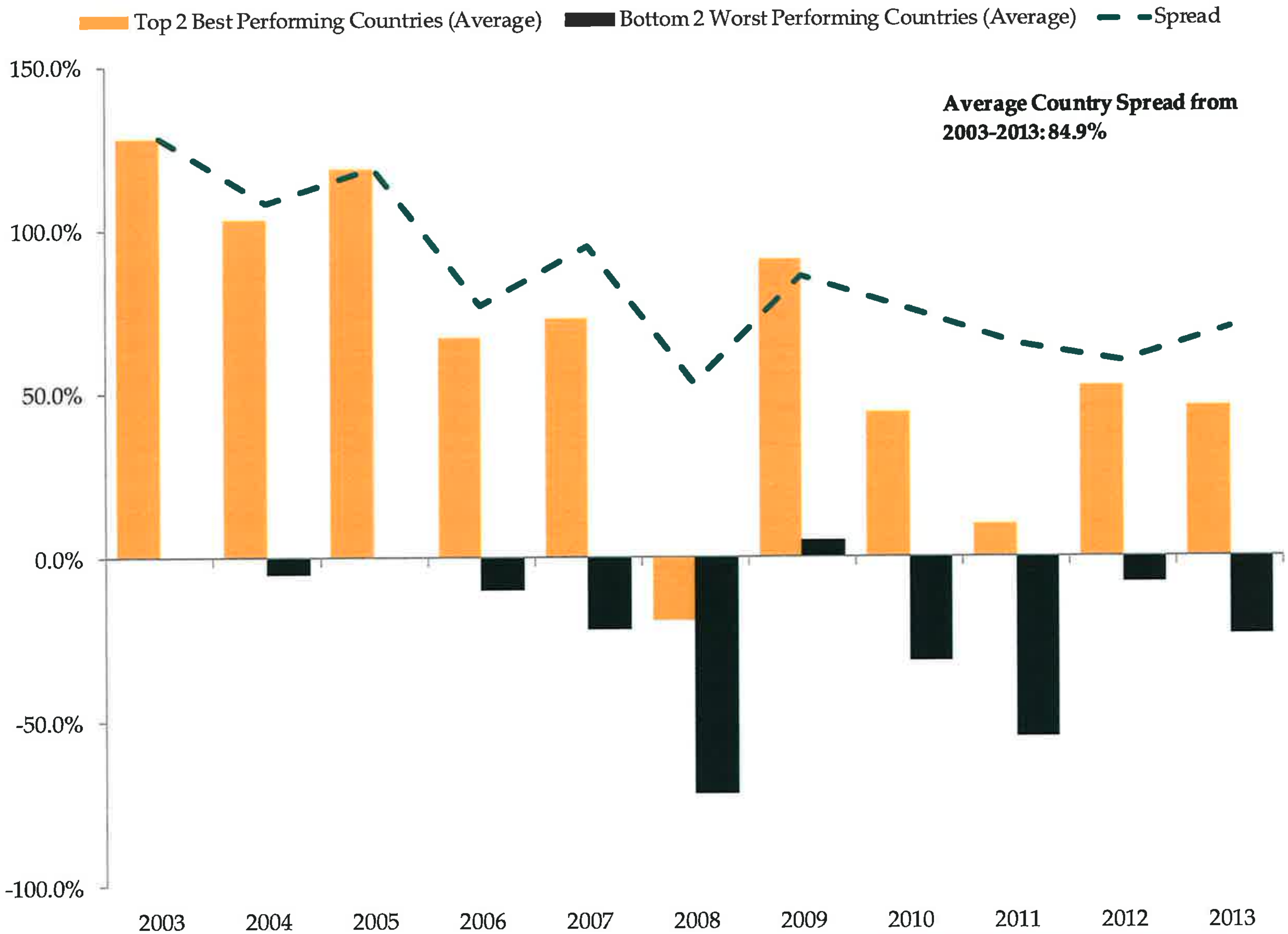



**Country and Sector Decisions Enhance Security Selection Odds**

# TOP DOWN PROCESS



## EXTREME COUNTRY SPREADS

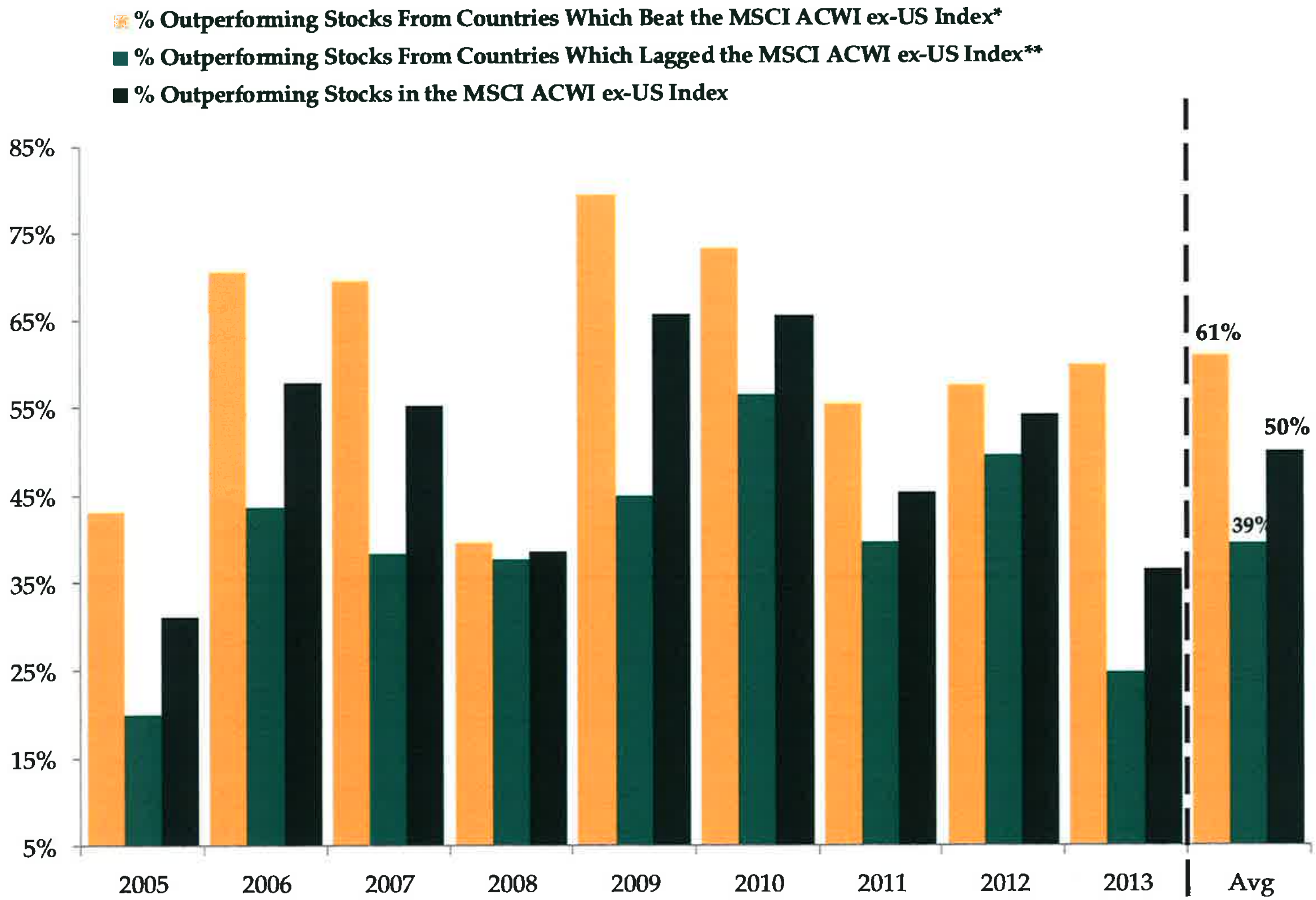



*Country returns are returns for the 43 countries that remained consistent in the MSCI All Country World Index ex-US (ACWI ex-US) from 2003-2013 (Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey & United Kingdom). The Top 2 Best Performing data points are the average price returns of the top two performing countries for each given year. The Bottom 2 Worst Performing data points are the average price returns of the bottom two performing countries for each given year. The Spread data points are the difference between the average of the top two and bottom two performing countries for each given year. Source: FactSet Data Systems, as of 12/31/2013.*

# STOCK SELECTION MADE EASIER



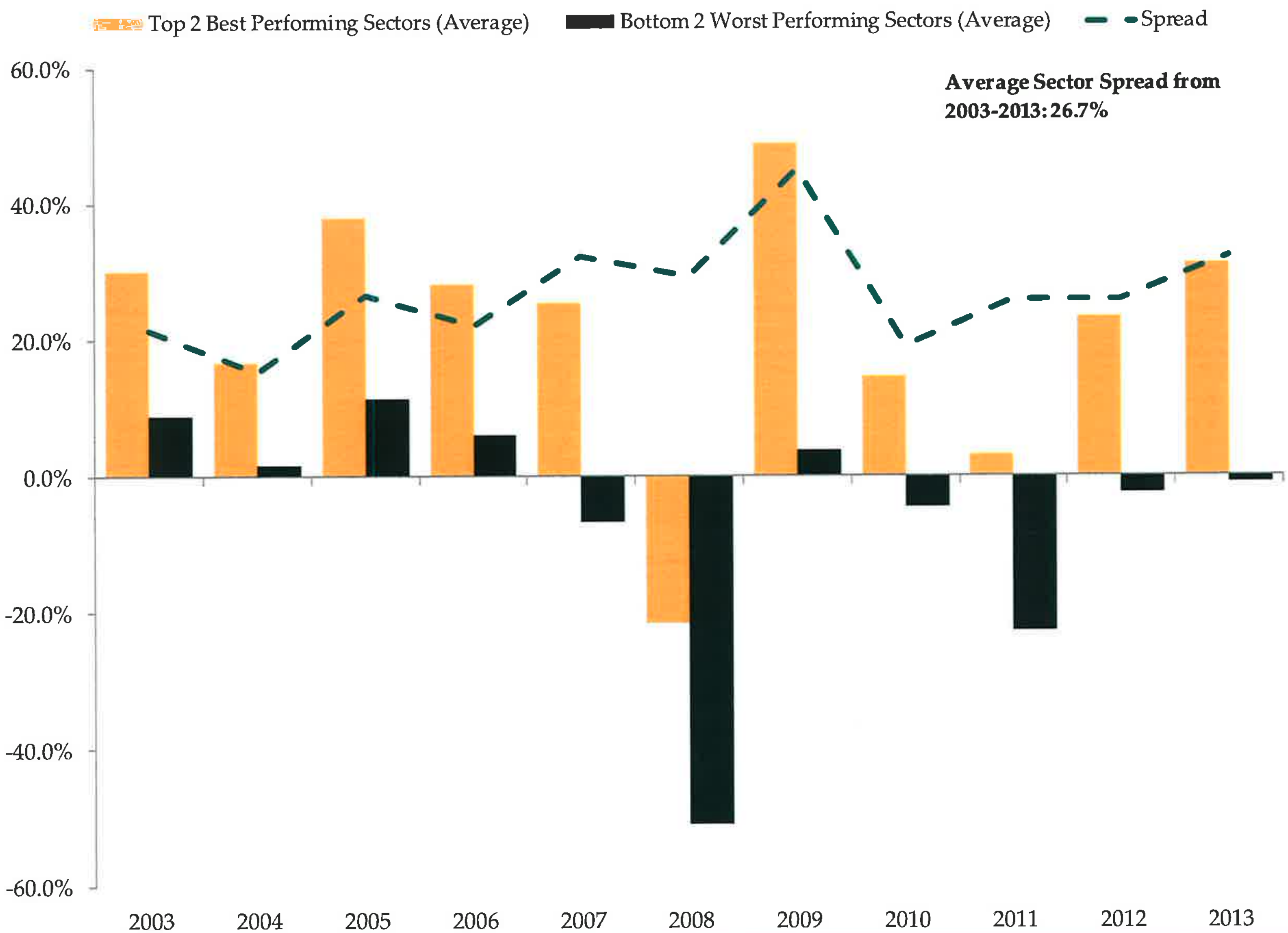
## FREQUENCY OF OUTPERFORMANCE - COUNTRIES




*As of 12/31/2013*

*The data set for a given year is the MSCI ACWI ex-US constituent list for each year end, and the returns used are price returns. * If a country in the MSCI ACWI ex-US outperforms the overall MSCI ACWI ex-US for a given year, the number of stocks in that country that also outperformed the overall MSCI ACWI ex-US is counted - The "% Of Outperforming Stocks Whose Country Returns Beat the MSCI ACWI ex-US " is thus the total number of stocks counted in this fashion divided by the total number of MSCI ACWI ex-US constituent stocks at year end. **If a country in the MSCI ACWI ex-US underperforms the overall MSCI ACWI ex-US for a given year, the number of stocks in that country that happened to outperform the overall MSCI ACWI ex-US is counted - The "% Of Outperforming Stocks Whose Country Returns Lagged the MSCI ACWI ex-US " is thus the total number of stocks counted in this fashion divided by the total number of MSCI ACWI ex-US constituent stocks at year end. Finally, an arithmetic average of all years sampled is shown. Data in USD. Source: FactSet.*

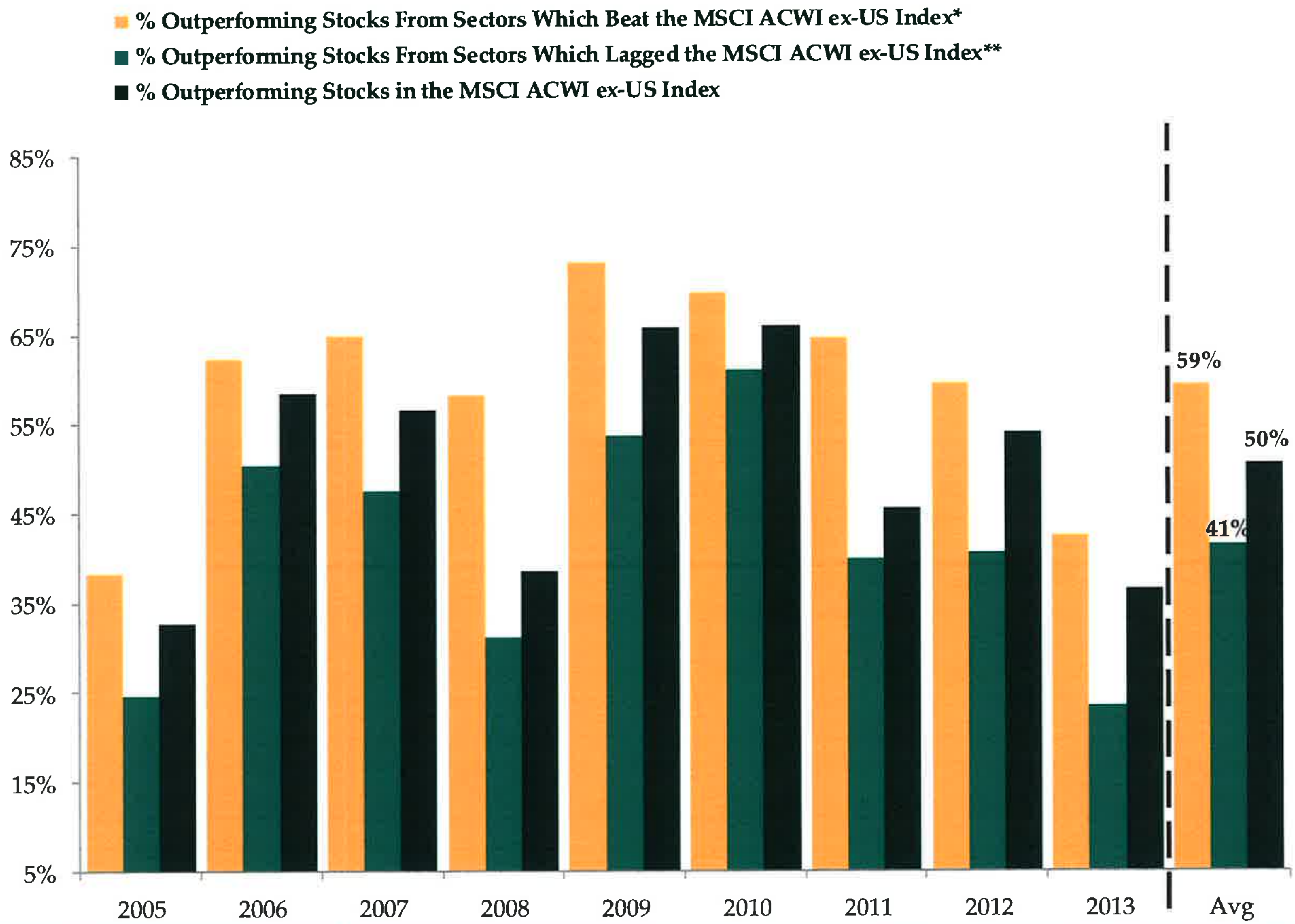
# EXTREME SECTOR SPREADS




*Sector returns are returns for the 10 sectors that remained consistent in the MSCI All Country World Index ex-US (ACWI ex-US) from 2003-2013 (Health Care, Information Technology, Consumer Discretionary, Consumer Staples, Financials, Telecom Services, Utilities, Energy, Materials & Industrials). The Top 2 Best Performing data points are the average price returns of the top two performing sectors for each given year. The Bottom 2 Worst Performing data points are the average price returns of the bottom two performing sectors for each given year. The Spread data points are the difference between the average of the top two and bottom two performing sectors for each given year. Source: FactSet Data Systems, as of 12/31/2013.*

# STOCK SELECTION MADE EASIER

## FREQUENCY OF OUTPERFORMANCE - SECTORS

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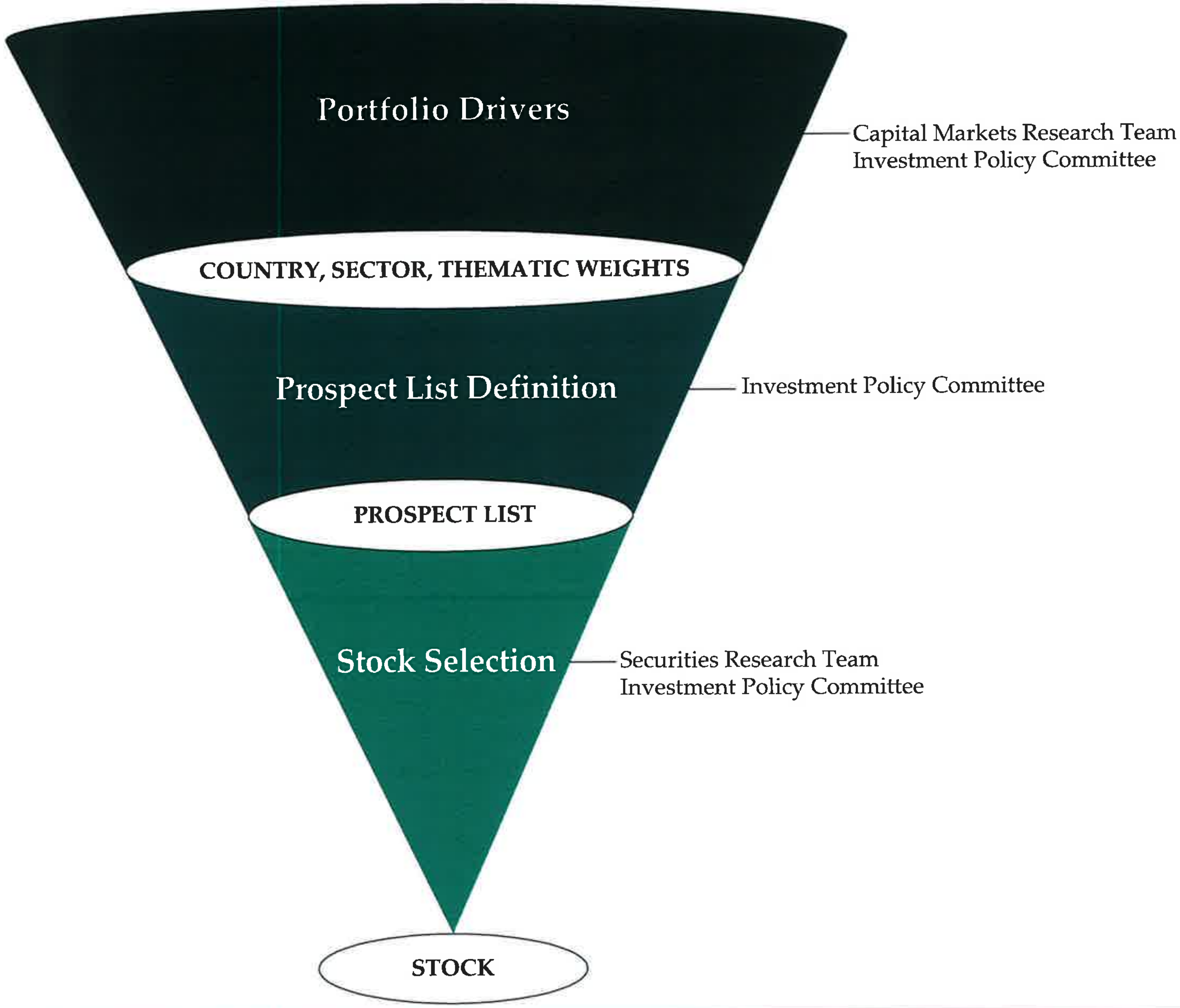
# INVESTMENT PROCESS

## OVERVIEW



# PORTFOLIO DRIVERS



## COUNTRY, SECTOR AND THEMATIC EXPOSURES

| Driver Category | Portfolio Drivers | Information Sources | Frequency of Change | Analytical Approach |
|---|---|---|---|---|
| **Economic** | **Yield Curve Spreads**<br>**Access to Credit**<br>**Relative GDP Growth**<br>**Monetary Base/ Growth**<br>**Currency Strength**<br>**Relative Interest Rates**<br>**Inflation**<br>**Debt Level**<br>**Leading Economic Indicators**<br>**Global Capacity**<br>**Infrastructure**<br>**M&A, Issuance and Repurchase**<br>**Fiscal Policy** | •Government agency, central bank, supranational and industry organizations' periodic releases<br><br>•Global economic and securities databases including Worldscope, Datastream, IBES, Compustat, Global Vantage, S&P, MSCI, Russell, Global Financial Data, Clarifi and proprietary databases<br><br>•Industry and trade group publications | Periodic (weekly, monthly, quarterly, annually) | Using econometrics and statistical relations, seek historically unusual or extreme driver outputs underappreciated by the marketplace |
| **Political** | **Taxation**<br>**Property Taxes**<br>**Structural Reform**<br>**Privatization**<br>**Trade/Capital Barriers**<br>**Current Account**<br>**Government Stability**<br>**Political Turnover** | •Over 100 financial and popular media periodicals and extensive online information monitoring<br><br>•Political and economic databases | Ad hoc | Marginal rate of change analysis of political developments incorporating both quantitative and qualitative inputs |
| **Sentiment** | **Mutual Fund Flows**<br>**Relative Style, Asset Class, Valuation and Performance**<br>**Media Coverage**<br>**Institutional Searches**<br>**Consumer Confidence**<br>**Foreign Investments**<br>**Professional Investor Forecasts**<br>**Momentum Cycle Analysis**<br>**Risk Aversion**<br>**Fundamental v. Behavioral Factor Analysis** | •Over 100 financial and popular media periodicals and extensive online information monitoring<br><br>•Asset management industry publications and databases<br><br>•Proprietary samplings of investor sentiment | Periodic, Ad hoc | A contrarian analysis of investor sentiment incorporating both quantitative and qualitative inputs |

# PROSPECT LIST DEFINITION AND STOCK SELECTION

FISHER INVESTMENTS®
INSTITUTIONAL GROUP

## FROM COUNTRY, SECTOR AND THEMATIC WEIGHTS TO THE PORTFOLIO


**Which categories and characteristics are appealing?**

**Which companies have liquidity or insolvency risk?**

**Are any companies inconsistent with the category or peer group?**

**What are the company's competitive advantages?**

**Strategic Attribute Examples**

- Brand Names
- Market Share
- Cost of Production
- Proprietary Technology
- Balance Sheet Strength

- Strategic Relationships
- Management
- Turnaround Story
- Barriers to Entry
- Consolidator

- Restructuring Plan
- Innovator
- Strong Product Pipeline
- Niche Market
- Regional Advantage
- Other Industry Specific Attributes

**Which strategic attributes best leverage our top down views?**

**How is the company taking advantage of its strategic attribute?**

**Has the market fully discounted the company's advantages in its share price?**

**What are the material risks to the stock?**

**Red Flag Examples**

**Operational**
- Customer concentration
- Sole source supplier
- Executive departures
- Regulatory and legal risks

**ESG**
- Environmental liability
- Labor relations
- Corporate stewardship

**Market & Security**
- Stock ownership concentration
- Pending corporate actions
- Accounting irregularities
- Market Access

*The stock selection process presented herein is for illustrative purposes only. It should not be assumed that it represents, on its own, the sole method used by Fisher Investments to make investment recommendations. Other techniques may produce different results, and the results for individual clients and for different periods may vary depending on market conditions and the composition of their portfolios*

Firm Overview

Investment Philosophy and Process

**Portfolio and Strategy Overview**

Benefits

Appendix

# EAST BAY MUNICIPAL UTILITY DISTRICT ERS

## PERFORMANCE

| | |
|---|---|
| Mandate | All Foreign Equity |
| Benchmark | MSCI ACWI ex-US |
| Market Value, as of 12/31/2014 | $91,040,127 |

| | 1 Year | 3 Years (Annualized) | 5 Years (Annualized) | Since Inception 02/17/2004 (Annualized) |
|---|---|---|---|---|
| East Bay MUD (Gross) | -1.7% | 10.7% | 7.0% | 6.2% |
| East Bay MUD (Net) | -2.4% | 10.0% | 6.3% | 5.5% |
| MSCI ACWI ex-US | -3.9% | 8.8% | 4.0% | 4.7% |
| Excess Return (Net) | 1.5% | 1.2% | 2.3% | 0.8% |

*Performance is preliminary. Preliminary performance is subject to the final reconciliation of accounts and deduction of any outstanding advisory fees, which will have the effect of lowering performance by the amount of the deductions. Performance is inclusive of dividends, royalties, interest and other forms of accrued income and may reflect end of month adjustments, such as unsettled trades, accrued interest, and/or dividends that may have not yet been applied to your account at the custodian. Returns are net of advisory fees, unless otherwise noted, and inclusive of brokerage or other commissions. Sources: Eagle Investment Systems, LLC & FactSet. As of 12/31/2014.*

# PORTFOLIO CHARACTERISTICS

## EAST BAY MUD VS. MSCI ACWI ex-US

| Characteristic | East Bay MUD | MSCI ACWI ex-US |
|---|---|---|
| **Number of Holdings** | 69 | 1,839 |
| **Weighted Average ($Billions)** | 74.5 | 51.1 |
| **Price/Earnings** | 15.8 | 14.1 |
| **Price/Sales** | 3.3 | 2.3 |
| **Price/Book Value** | 2.5 | 1.7 |
| **Dividend Yield (%)** | 2.4 | 2.8 |

*As of 12/31/2014. Sources: Eagle Investment Systems LLC & FactSet.*

# COUNTRY ALLOCATION



## EAST BAY MUD VS. MSCI ACWI ex-US

| Country | Relative Weight | East Bay MUD | MSCI ACWI ex-US |
|---|---|---|---|
| Germany | 8.2% | 14.7% | 6.5% |
| United Kingdom | 7.2% | 22.1 | 14.9 |
| Switzerland | 3.5% | 10.1 | 6.6 |
| France | 2.7% | 9.6 | 6.9 |
| China | 2.6% | 7.3 | 4.7 |
| Denmark | 2.0% | 3.1 | 1.1 |
| Indonesia | 0.9% | 1.5 | 0.6 |
| India | 0.9% | 2.4 | 1.5 |
| Netherlands | 0.8% | 2.8 | 2.0 |
| Turkey | 0.5% | 0.9 | 0.4 |
| Belgium | 0.1% | 1.0 | 0.9 |
| Mexico | 0.0% | 1.1 | 1.1 |
| Brazil | 0.0% | 1.9 | 1.9 |
| Taiwan | -0.5% | 2.2 | 2.7 |
| Hong Kong | -0.5% | 1.7 | 2.2 |
| Italy | -0.6% | 0.9 | 1.5 |
| Finland | -0.6% | 0.0 | 0.6 |
| Russia | -0.7% | 0.0 | 0.7 |
| Malaysia | -0.8% | 0.0 | 0.8 |
| South Korea | -0.9% | 2.3 | 3.2 |
| Sweden | -1.0% | 1.2 | 2.2 |
| Singapore | -1.1% | 0.0 | 1.1 |
| Spain | -1.5% | 1.0 | 2.5 |
| South Africa | -1.7% | 0.0 | 1.7 |
| Australia | -2.5% | 2.8 | 5.3 |
| Other* | -3.6% | 0.0 | 3.6 |
| Canada | -3.9% | 3.6 | 7.5 |
| Japan | -9.4% | 5.6 | 15.0 |

**Other by (Benchmark Weight %, Relative Weight %): Norway (0.5 -0.5), Thailand (0.5 -0.5), Israel (0.4 -0.4), Philippines (0.3 -0.3), Chile (0.3 -0.3), Poland (0.3 -0.3), Ireland (0.2 -0.2), Colombia (0.2 -0.2), Qatar (0.2 -0.2), New Zealand (0.1 -0.1), United Arab Emirates (0.1 -0.1), Egypt (0.1 -0.1), Austria (0.1 -0.1), Peru (0.1 -0.1), Portugal (0.1 -0.1), Greece (0.1 -0.1)*

*Percent of portfolio market value that is allocated to a given country, excluding cash. As of 12/31/2014. Eagle Investment Systems, LLC & FactSet.*

# SECTOR ALLOCATION

## EAST BAY MUD VS. MSCI ACWI ex-US

| Sector | Relative Weight | East Bay MUD | MSCI ACWI ex-US |
|---|---|---|---|
| Information Technology | 10.4% | 17.9% | 7.5% |
| Health Care | 9.3% | 17.9 | 8.6 |
| Consumer Discretionary | 4.5% | 15.7 | 11.2 |
| Industrials | 2.2% | 13.2 | 11.0 |
| Financials | -2.9% | 24.7 | 27.6 |
| Utilities | -3.6% | 0.0 | 3.6 |
| Materials | -4.1% | 3.6 | 7.7 |
| Consumer Staples | -5.1% | 4.8 | 9.9 |
| Energy | -5.4% | 2.1 | 7.5 |
| Telecom Services | -5.4% | 0.0 | 5.4 |

*Percent of portfolio market value that is allocated to a given sector, excluding cash. As of 12/31/2014. Eagle Investment Systems, LLC & FactSet.*

# BENEFITS

- **Stable and Experienced**

  IPC members average 26 years of investment industry experience and 23 years of experience at Fisher Investments

- **Unique Process**

  Top-down process provides low/negative correlation of alpha to traditional managers and allows greater flexibility across varying market environments

- **Organizationally and Philosophically Independent**

  100% Fisher family and employee owned which allows FI to be unconstrained by conventional wisdom and protects the firm and investment process from biases

- **Innovative**

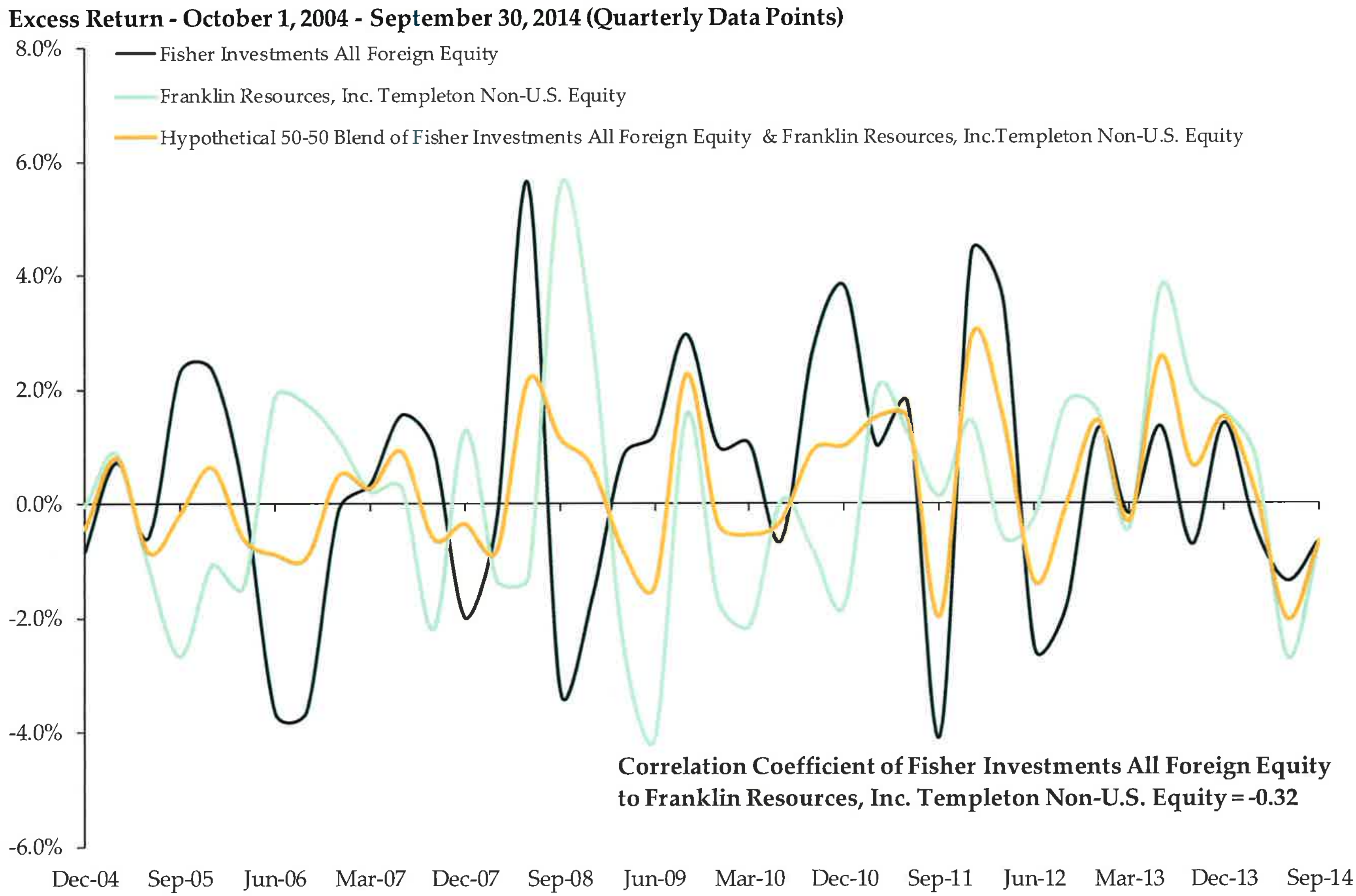
  Committed to developing new capital markets technology to help identify market trends and make better investment decisions

- **Integral Partner**

  Willing to work directly with consultants and clients to provide access to investment research, customized strategy reporting and firm resources

# PROCESS BENEFITS

## FISHER INVESTMENTS VS. FRANKLIN TEMPLETON




*For professional investor use only.*

*Excess Return is calculated using quarterly data points by taking the difference between product performance and its respective benchmark from 10/01/2004 – 09/30/2014. The Fisher Investments All Foreign Equity strategy is benchmarked against the MSCI ACWI ex-US index. The correlations between the Fisher Investments All Foreign Equity portfolio and Franklin Resources, Inc. Templeton Non-US Equity portfolio were calculated using quarterly data points from 10/01/2004 – 09/30/2014. Source: eVestment Alliance.*

Firm Overview

Investment Philosophy and Process

Portfolio and Strategy Overview

Benefits

**Appendix**

# SELL DISCIPLINES



## Strategic

- Sales caused by changes in country, sector and thematic allocations
  - Accounts for approximately 70% of turnover

## Fundamental

- Sales caused by fundamental changes in a company impacting its strategic attributes
  - Accounts for approximately 20% of turnover

## Portfolio Maintenance

- Sales designed to reduce a security to its target portfolio weight
  - Accounts for approximately 10% of turnover

*Note: The information described herein is an approximation of trade turnover and no assurances can be given that it has not changed or that it will not change in the future. Data is based on the categorization of trades as either fundamental, strategic or maintenance within a representative client portfolio (rather than a composite or an average of a group of portfolios) belonging to a Fisher Investments top-down strategy over a trailing five year period. Excluding cash, unless otherwise denoted. Clients' portfolio characteristics may differ given the various investment restrictions, cash requirements and other circumstances that can apply to particular clients.*

# RISK CONTROLS



| Investment Risk Type | Controls | Goal / Objective |
|---|---|---|
| **Stock-specific risk** | •Individual security positions will generally be limited to approximately 5% of the portfolio at market value | Limit overall stock-specific risk |
| **Country and Sector risk** | Maximum exposure to any one country or sector (sector as defined by MSCI GICS Sector Level I) will be based on the Benchmark and generally fall within the following ranges at market value:<br>•If the Benchmark weight is between 0-10% the maximum portfolio weight is the Benchmark weight plus 20%<br>•If the Benchmark weight is greater than 10% the maximum portfolio weight is three times the Benchmark weight | Limit country and sector-specific risk |
| **Operational risk assessment** | Red flag analysis | Limit stock-specific operational risk |
| **Breach of debt covenants** | Debt covenant analysis | Limit stock-specific capital structure risk |
| **Regulatory risk** | Regulatory risk analysis | Limit/anticipate deleterious regulatory changes |
| **Liquidity risk** | •Stock selection liquidity screens<br>•Portfolio holdings liquidity analysis | Limit illiquidity risk |
| **Solvency risk** | Solvency screens | Limit/eliminate bankruptcies |
| **Additional risk factors** (size, valuation, momentum, beta) | Risk factor analysis | Limit/eliminate unintended factor exposure |
| **Active risk/tracking error** | •Ex ante modeling<br>•Factor analysis<br>•Sector/industry controls | 4-8% per annum over a market cycle |
| **Downside performance** | Liquidity and solvency screens | Limit downside capture |
| **Standard deviation of portfolio returns** | •Covariance analysis<br>•Most controls listed above | Similar to benchmark over a market cycle |

| Organizational Risk Type | Controls | Goal / Objective |
|---|---|---|
| **Financial risk** | •FI is an established firm: significant AUM<br>•Diversified strategies and client mix | Maintain an independent organization structured to help our clients accomplish their investment objectives |
| **Key person risk** | Four-person IPC averaging 23 years experience at FI; deep research bench | |
| **Business continuity risk** | Comprehensive disaster recovery and business continuity planning and commitment | |
| **Parent company and affiliate risk** | Independent, 100% Fisher-family and employee owned, focused on asset management | |

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# INVESTMENT POLICY COMMITTEE

## BIOGRAPHIES

### Kenneth L. Fisher — CEO, Co-CIO

♦35 years at Fisher Investments

Ken is the founder, CEO and Co-Chief Investment Officer of Fisher Investments, a $60 billion (as of December 31, 2014) money management firm serving large institutions and high net worth individuals throughout most of the developed world. Perhaps best known for his prestigious Forbes "Portfolio Strategy" column, Ken's 30 years of high-profile market calls make him the third-longest running columnist in Forbes history. From 1984 through 2012 he also wrote 10 books, including four New York Times bestsellers. Ken has been published, interviewed and/or been written about in publications globally. He writes a weekly column for Germany's Focus Money magazine and monthly columns in the UK's The Financial Times. His early 1970s theoretical work pioneered an investment analysis tool called the Price-to-Sales Ratio, now a core part of financial curriculum. A prize-winning researcher, his credits span a multitude of professional and scholarly journals—a paper he co-authored with Meir Statman in 2000 received the Journal of Portfolio Management's Bernstein Fabozzi/Jacobs Levy Award, and in 2010 Investment Advisor recognized Ken on its prestigious IA-30-30 list of the industry's 30 most influential individuals of the last three decades. Tiburon Strategic Advisors also recognized Ken, awarding him with their 2009 CEO Summit Award for Challenging Conventional Wisdom.

### Jeffery L. Silk — Vice Chairman, Co-CIO

♦31 years at Fisher Investments

As one of the early employees of Fisher Investments (FI), Jeffery has been with FI since 1983. Jeffery is currently a FI Vice Chairman, Co-Chief Investment Officer and member of the IPC. Prior to his current responsibilities, Jeffery was President and Chief Operating Officer. He has also served as the firm's Director of Trading and Operations, where he was instrumental in developing FI's portfolio management, research and trading technology. He has written numerous articles and lectured before institutional investors on the use of technology in the investment process.

## BIOGRAPHIES

### William J. Glaser — Executive Vice President, Portfolio Management

♦15 years at Fisher Investments

William has been with Fisher Investments since 1999. He is responsible for the oversight and management of the Research and Investment Operations Groups. William presents at client seminars nationally and has been a guest lecturer at the Haas School of Business at the University of California, Berkeley. Prior to his current role, William managed the Capital Markets and Securities Research Teams and served as a Capital Markets and Securities Research Analyst.

### Aaron S. Anderson — Senior Vice President of Research

♦9 years at Fisher Investments

Aaron has been with Fisher Investments since 2005. Aaron has been a guest lecturer at the Haas School of Business at the University of California, Berkeley. He has written two books, including Own the World: How Smart Investors Create Global Portfolios. Aaron is currently the Senior Vice President of Research at FI. Previously, he served as a Capital Markets Research Team Leader and Analyst, Innovation Manager and contributing editor of MarketMinder.com. Prior to joining FI, Aaron worked at Deutsche Bank Alex. Brown as an Assistant Vice President in private wealth management.

# INVESTMENT PROFESSIONALS

## BIOGRAPHIES

### Chris M. Swany — Vice President, Portfolio Specialist

- 12 years at Fisher Investments

Chris serves as a liaison between the Investment Policy Committee and FI's institutional clients and consultants. Prior to joining Fisher Investments, Chris worked as a Principal for 54th Street Partners, a venture capital firm. Additionally, he worked as an industry analyst for the Franklin Templeton group and as a senior analyst for a small cap value hedge fund.

### Akash D. Patel — Vice President/Relationship Manager – Consultant Relations

- 9 years at Fisher Investments

Akash serves as a liaison between the Investment Policy Committee and FI's institutional clients and consultants. In this role, he communicates portfolio strategy, market outlook, performance, stock analysis, and conducts ad hoc research projects. Previously, Akash worked in the Research Group as a Capital Markets Analyst and as an Associate on the Portfolio Evaluation Group and the Research Analytics and Production Team, assisting with portfolio evaluations and conducting performance analysis for the Investment Policy Committee and other departments.

### Margaret N. Chan — Vice President/Relationship Manager

- 10 years at Fisher Investments

Margaret serves as a liaison between the Investment Policy Committee and our institutional clients and their investment consultants. In this role, Margaret communicates portfolio strategy, market outlook, performance, stock analysis, and conducts ad hoc research projects. Prior to her current role, Margaret was an Investment Counselor in the Fisher Investments Private Client Group. She was also previously a Senior Account Executive, in the Private Client Group.

*Please see the Firm Disclosure in the Appendix.*

## FIRM

Fisher Investments (FI) is an investment adviser registered with the Securities and Exchange Commission. As of December 31, 2014, FI managed over $60 billion. FI maintains two principal business units – Fisher Investments Institutional Group (FIIG) and Fisher Investments Private Client Group (FIPCG). FIPCG services substantially all private client accounts managed by FI and FIIG services substantially all institutional accounts managed by FI. The Investment Policy Committee is responsible for all strategic investment decisions for both business units.

For purposes of defining "firm," Fisher Investments was established as a sole proprietorship in 1979, incorporated in 1986, registered with the SEC in 1987, replacing the prior registration of the sole proprietorship, and succeeded its investment adviser registration to a limited liability company in 2005. "Years with FI" is calculated using the date on which Fisher Investments was established as a sole proprietorship through December 31, 2014.

FI is wholly-owned by Fisher Investments, Inc. (FII). Since inception, FII has been 100% Fisher-family and employee-owned, currently Fisher Investments, Inc. (FII) beneficially owns 100% of Fisher Investments (FI), as listed in Schedule A to FI's Form ADV Part 1. Kenneth L. Fisher beneficially owns more than 75% of FII, as noted in Schedule B to FI's Form ADV Part 1.

## REPRESENTATIVE PORTFOLIO

The foregoing information is based on a representative portfolio (rather than a composite or an average of a group of portfolios), excluding cash, unless otherwise denoted. This representative portfolio information is derived from an actual client portfolio or a model portfolio. Clients' portfolio characteristics may differ given the various investment restrictions, cash requirements and other circumstances that can apply to particular clients. Portfolio information is as of the dates indicated, and no assurances can be given that it has not changed or that it will not change in the future.

## STOCK SELECTION

The stock selection process presented herein is for illustrative purposes only. It should not be assumed that it represents, on its own, the sole method used by Fisher Investments to make investment recommendations. Other techniques may produce different results, and the results for individual clients and for different periods may vary depending on market conditions and the composition of their portfolios. Any mention of a particular security in this illustration is not intended to represent a recommendation to buy or sell that security. Rather, it is intended to illustrate a point. There can be no assurance that advisory clients invested in any security mentioned or continue to hold such a security. It should not be assumed that the future performance of any security mentioned will be profitable. Upon request, Fisher Investments will provide a list of its recommendations over the past year. Investment in securities involves the risk of loss. Past performance is no guarantee of future returns.

FISHER INVESTMENTS™

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**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Rodney Deiter, Human Resources Analyst

THROUGH: Elizabeth Grassetti, Sr. Human Resources Analyst

SUBJECT: Annual Health Insurance Benefit Survey

## BACKGROUND

Post-employment health care benefit allowances are provided to eligible Retirement System Members through the Health Insurance Benefit (HIB). For members entering the System prior to July 1, 1996, a monthly allowance of up to $450 ($550 for married retirees and retirees with financially dependent registered domestic partners) is paid to retirees with at least five years of full-time service to reimburse employee-paid medical expenses. Members who joined the Retirement System after July 1, 1996 are subject to a vesting schedule based on increments of five years of full-time service to get 25% percent of the HIB (5 yrs = 25%, 10 yrs = 50%, 15 yrs = 75%, 20 yrs = 100%). The HIB allowance became a vested benefit effective July 1, 1999 with the current $450/$550 effective on July 1, 2004.

In fiscal year ending June 30, 2014, the Retirement System expenditure for the HIB was $7,033,000, an increase of 5.47% over the previous year. The HIB funding ratio was 13.99% as of the June 30, 2014 actuarial valuation.

Retirement Rule C-17 requires the Retirement Board to annually review the HIB. For the annual review, staff surveyed fourteen comparable public agencies for details regarding their respective retirement health benefits (Attachment 1). The survey focuses on costs to the retiree rather than the liability associated with providing retiree medical benefits.

District Health Plan Premiums for 2015 are shown in Attachment 2.

## SURVEY RESULTS

Staff conducted this survey in December of 2014. In the survey, agencies are asked to provide the maximum dollar amounts that the agency will pay for retiree health benefits. It is important to note that many retirees receive less than the maximum amount due to the agencies vesting periods, benefit tiers, and coverage levels. Generally, the highest premiums are for early retirees with family coverage. Premiums are reduced as dependents come off medical plans and retirees become eligible for Medicare.

The survey does not address plan design (co-pays, deductibles, etc.) as these differ greatly from agency to agency and often are one of the key drivers of premium costs which many of the surveyed agencies use to set their retiree contributions.

To manage costs, many public agencies continue to make changes in both vesting requirements and level of benefits. Economic realities have prompted agencies to review post employment retiree health benefits with the goal of ensuring long-term financial stability in these costs. Cities and counties have been especially hit hard by the economic climate and, in turn, they have been aggressive in reducing and/or capping retiree health benefits and changing benefits that are not vested. Many of the agencies surveyed indicate that changes will continue to occur in their post employment benefit programs as current contracts expire and with plans to negotiate with their labor unions and employee groups in the coming years.

Highlighted survey changes:

- Several agencies noted an increase in co-pay amounts.
- Three agencies experienced no increase in maximum dollar amount of employer paid medical.
- For the agencies experiencing an increase in maximum dollar amount of employer paid medical, rates increased moderately during the past year for many agencies. For the nine agencies experiencing increases, the average increase was approximately 6.7%.
- Length of vesting requirements to receive health benefits continues to increase for agencies.
- Sacramento County employees receive a County contribution of $650 per a year into a Retiree Health Saving Plan in lieu of any retiree health care benefit.

Attachments
EG/rd

# AGENCY HEALTH INSURANCE BENEFITS SURVEY 2015

| AGENCY | Maximum Dollar Amount of Employer Paid Retiree Medical Benefits(excluding dental, vision, long-term care or Medicare B/D) | Vesting Requirement for Retiree Health Benefits | Agency pay for dental, vision, long-term care, or Medicare B/D | Employer Paid Contributions Provided for Vested Deferred Retirees |
|---|---|---|---|---|
| **AC Transit** | Up to the single rate of $691/mo. | 10 years of service for AFSCME, IBEW, and Unrepresented<br>8 years for ATU employees | Vision - Up to $13.40/mo. | No |
| **Alameda County** | Retirees with 20+ years of service:<br>Up to $522.16/mo.<br>Medicare Eligible who enter into Medicare exchange plans - Up to $400/mo. | 0-9 years = no benefit<br>10-14 years = $261.08<br>15-19 years = $391.62<br>20+ years = $522.16 | Dental - Up to $38.46/mo.<br>Vision - Up to $4.24/mo.<br>Medicare Part B reimbursement $104.90/mo. | Yes. Funded by a trust created by investment earnings on the pension fund. |
| **Alameda County Water** | Single - Up to $928.87/mo.<br>Double - Up to $1,857.74/mo.<br>Family - Up to $2,415.06/mo. | Hired before 8/2002 - no vesting period and retirees receive same benefit as active employee.<br>Hired after 8/2002 with 10 years of service - receive a subsidy equal to 5% employer contribution rate for each year of service up to 100% at 20 yrs.<br>Hired after 1/2009 - must have 25 years for 100% of subsidy. | Dental - 15 yrs and age 50;<br>Hired after 1988:<br>Dental - Up to $187.75/mo.<br>Vision – Up to $22.02/mo.<br>New retirees hired after 1/1/2009 have no dental or vision coverage. | No |
| **City / County San Francisco** | Single - Up to $1,453.62/mo.<br>Family - Up to $1,828.91/mo.<br>Proposition B, which passed in June 2008, now mandates that all retiree health benefits have to be approved by the voters.<br>Must retire within 180 days of separation in order to receive retiree health benefits.<br>New Employees hired after 1/10/2009 make a 2% contribution to health trust fund for future retiree health liabilities. | Hired before 1/10/2009 - 5 years vesting for full benefit.<br>Hired after 1/10/2009 vesting schedule:<br>5 years = no benefit<br>10 years = 50% of City contribution<br>15 years = 75% of City contribution<br>20 years = 100% of City contribution | No | Yes, for those hired prior to 1/10/2009;<br>No, for new employees hired after 1/10/2009. |
| **Contra Costa County** | Single - Up to $947.77/mo.<br>Family - Up to $2,324.96/mo. | Hired prior to 1/2007 - 10 years of service required<br>Hired after 1/2007 - 15 years of service required<br>As of 1/2010 for new hires, all non-represented job classes and some union classes receive no retiree health subsidy, but can self-pay to maintain coverage on county plan. | Dental:<br>Single - Up to $43.35/mo.<br>Family - Up to $97.81/ mo. | Yes |

# AGENCY HEALTH INSURANCE BENEFITS SURVEY 2015

| AGENCY | Maximum Dollar Amount of Employer Paid Retiree Medical Benefits(excluding dental, vision, long-term care or Medicare B/D) | Vesting Requirement for Retiree Health Benefits | Agency pay for dental, vision, long-term care, or Medicare B/D | Employer Paid Contributions Provided for Vested Deferred Retirees |
|---|---|---|---|---|
| **Contra Costa Water** | Up to family rate:<br>Health Net - $3,598.66/mo.<br>Blue Cross - $1,971.45/mo.<br>Kaiser - $2,120.20/mo. | 5 years of service for professional, confidential, and unrepresented<br>10 years of service for clerical and maintenance employees. | No | No |
| **Dublin- San Ramon Services District** | Up to $1,605/mo. for family | 10 years (5 years with DSRSD)<br>Before 9/24/2007 - employee can choose medical benefit equal to same rate as that of active employee.<br>After 9/24/2007 - new employees are on PERS vesting schedule where agency contributes 50% of benefit at 10 years of service up to 100% of benefit at 20 years. | Dental - up to $174.40/mo. for family | Yes - must have 20 years of service with DSRSD |
| **EBMUD** | Single - Up to $450/mo.<br>Double - Up to $550/mo. | Hired prior to 7/1/1996 with 5 years service receives full benefit.<br>Hired after 7/1/1996 are subject to vesting schedule:<br>5 years = 25% of maximum contribution<br>10 years = 50% of maximum contribution<br>15 years = 75% of maximum contribution<br>20+ years = 100% contribution | Dental, Vision, and other eligible premium expenses are eligible for reimbursement:<br>Single - Up to $450/mo.<br>Married – Up to $550/mo. | Yes |
| **LADWP** | Up to max of $1,318.86 /mo. | 10 years - benefit is 4% per year of Service Credit up to maximum of 30 years. | Dental: up to $133.13/mo. | No |
| **Marin County** | Up to $1,089.14/mo. | 5 years of service<br>Plan I: Hired before 10/1/1987 up to $1089./mo.;<br>Plan II: Hired after 10/1/1987 and prior to 10/1/1993 receive up to $2,275/year.<br>Plan III: Hired after 10/1/1993 and before 1/2008 receives $737.75/mo.<br>Plan IV: Hired on or after 1/2008 receives $150 per year of service up to $3,000 annual maximum benefit. | Dental: up to $53.40/mo. | No |

# AGENCY HEALTH INSURANCE BENEFITS SURVEY 2015

| AGENCY | Maximum Dollar Amount of Employer Paid Retiree Medical Benefits(excluding dental, vision, long-term care or Medicare B/D) | Vesting Requirement for Retiree Health Benefits | Agency pay for dental, vision, long-term care, or Medicare B/D | Employer Paid Contributions Provided for Vested Deferred Retirees |
|---|---|---|---|---|
| **Marin Municipal Water** | Single - Up to $755.08/mo.<br>Double/Family - Up to $1,550.16/mo. | Age 50 with 5 years of service before 1/1/13<br>Age 52 with 5 years after 1/1/13 | Dental - Up to $2,000 per year for retiree until age 65 | No |
| **Sacramento County** | $0 | Employees receive a County contribution of $650/yr. to a Retiree Health Savings Plan in lieu of any retiree health care benefit.<br>Retiree health benefits are not a vested benefit and are subject to change. | $0 | No - may purchase on a self-pay basis |
| **San Mateo County** | Single - Up to $1,173.11/mo.<br>Family - $3,545.45/mo. | 10-14 years - $440/mo. toward premium for every 8 hrs. of sick leave<br>15-19 years - $482.44/mo. toward premium for every 8 hrs. of sick leave<br>20+ years - $552.69/mo. for every 6 hours of sick leave<br>When sick leave is exhausted, retiree pays full cost of premium. | Certain bargaining units can use accumulated value of unused sick leave toward dental. | No |
| **Santa Clara County** | Single -Up to 100% of Kaiser $682.63 /mo.<br>Over 65 - reimbursement for medical up to Kaiser Under 65 rate | Hired before 6/19/2006 - receives full benefit after 8 years of service.<br>Hired after 6/19/2006 - receives full benefit after 10 years of service. | No | No |
| **Santa Clara Valley Water District** | Single - Up to $1,343.20/mo.<br>Family - Up to $3,760.97/mo. | Hired before 3/1/2007 with10 years of service to cover employee and 15 years of service to cover double.<br>Hired after 3/1/2007 with 15 years of service to cover employee and 20 years of service to cover double. | Employer reimburses Medicare Part B<br>Dental - up to $187.46 if hired before 3/1/2007, but Dental only for 30 executives. | No |

# EBMUD
# Health Plan Rates
# Effective January 1, 2015

| KAISER (7002) | PREMIUM |
|---|---|
| Retiree <65 | 572.53 |
| Retiree < 65 +1 | 1145.06 |
| Retiree <65 +2 | 1620.26 |
| >65 without Part A & B - Single Rate | 1701.09 |
| **Senior Advantage - HIGH OPTION PLAN** | **PREMIUM** |
| Single Rate | 311.35 |
| Double (1Sr. Adv + 1 < 65) | 883.88 |
| Couple (both with Senior Advantage) | 622.70 |
| Family (1 Sr. Adv + 1 <65 + dep(s) <65) | 1359.08 |
| Couple (both Sr Adv) + dep(s) < 65 | 1097.90 |
| **Senior Advantage - LOW OPTION PLAN** | **PREMIUM** |
| Single Rate | 254.64 |
| Double (Sub. Sr. Adv + 1 < 65) | 827.17 |
| Couple (both with Senior Advantage) | 509.28 |
| Family (Sub Sr. Adv + 1 <65 + dep(s) <65) | 1302.37 |
| Couple (both Sr Adv) + dep(s) < 65 | 984.48 |
| **HEALTH NET (74006A-F)** | **PREMIUM** |
| Retiree <65 | 1079.32 |
| Retiree < 65 +1 | 2158.63 |
| Retiree <65 +2 | 3054.41 |
| **Health Net Seniority Plus** | **PREMIUM** |
| Single Rate | 566.50 |
| Double (1 Senior Plus + 1 <65) | 1645.82 |
| Double - both Seniority Plus | 1133.00 |
| Family (Sub Sr. Plus + 1 <65 + dep(s) <65) | 2541.61 |
| Family (Couple both Sr. Plus) + dep(s) < 65 | 2212.32 |
| **Health Net Medicare COB** | **PREMIUM** |
| Single Rate | 775.43 |
| Double (Ret w/Medicare COB + 1 <65) | 1854.75 |
| Double (2 w/Medicare COB) | 1550.86 |
| Family (Sub Med COB + 1 <65 + dep(s) <65) | 2750.52 |
| Family (Couple both Med COB + dep(s) <65 | 2630.18 |
| **BLUE CROSS - PBC (65460B)** | **PREMIUM** |
| Retiree Under 65 | 742.90 |
| Retiree <65 + 1 Dep | 1512.57 |
| Retiree < 65 + 2 Dep | 2033.02 |
| **BC Medicare Coordinated Plan** | **PREMIUM** |
| Retiree with Medicare | 484.74 |
| Retiree with Medicare + 1 Dep | 985.84 |
| Retiree with Medicare + 2 Dep | 1358.50 |

Group number for retirees is 65460B - under 65 and 65460M over 65

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| DELTA PREMIER (7314-0014) | PREMIUM |
|---|---|
| Retiree | 39.50 |
| Retiree + 1 | 71.06 |
| Retiree + 2 or more | 100.72 |
| **DELTA CARE (00438-0001)** | **PREMIUM** |
| Retiree | 29.25 |
| Retiree + 1 | 49.05 |
| Retiree + 2 or more | 72.25 |

**NOTE: Retirees/spouses 65+ required to have Part A and Part B Medicare**

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: January 15, 2015

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Sr. Human Resource Analyst

THROUGH: Lisa Sorani, Manager of Employee Services L.S.

SUBJECT: Purchase of Service Calculation

## BACKGROUND

The Retirement Ordinance provides for the purchase of temporary service when an employee moves from LT/TC to probationary status without a break in service. This purchase of service is an optional benefit, with the employee paying the full cost of the additional service resulting in no additional liability to the retirement system. Employees must pay both the employee and employer contributions, but do not pay an amount toward the unfunded actuarial accrued liability. Employees can pay the amount over a period not to exceed eight years, and may choose to purchase a partial service amount. Repayment is on a pre-tax basis from an employee's wages.

The purchase amount is calculated using the following inputs:

- Amount of service purchased
- The date the service is being purchased
- Employee contribution rate at time of purchase
- Employer contributions rate at time of purchase
- Retirement System Assumed rate of return at time of purchase
- Length of repayment period
- Current salary rate at time of purchase
- Employee's current age

Employees must request a purchase estimate within 60 days of becoming probationary. Once an employee receives the estimate, they have an additional 90 days to choose to purchase the service. To purchase service, they sign the estimate and return it to HR Employee Services for processing.

The cost to the employee is the retirement system normal cost contribution rate in effect at the time of purchase. Currently the contribution rates are as follows:

| FY 2014-2015 Normal Cost | 1980 Plan | 2013 Plan |
|---|---|---|
| Employee Contribution -Pension | 8.24% | 8.75% |
| Employee Contribution - HIB | 0.09% | 0.09% |
| Employer Contribution - Pension | 14.86% | 8.07% |
| Employer Contribution - HIB | 1.22% | 0.77% |
| Total | 24.41% | 17.68% |