# COUNTY OF MENDOCINO

# RETIREMENT HEALTH PLAN

## Actuarial Valuation Study

**Valuation Date:** **July 1, 2007**

**Date of Report:** **August 21, 2008**

# Executive Summary

## Background

The County of Mendocino provides healthcare benefits for eligible employees who are hired before September 1998 and who retire from active employment with the County after age 50 with 10 years of service

Under the plan, the County makes payment for the eligible retirees' medical and drug costs. Eligible dependents may receive coverage if they pay the required contribution, currently $510 per month.

## GASB 45

In June 2004, the Governmental Accounting Standards Board (GASB) issued GASB Statement 45, which addresses accounting and financial reporting for Postemployment Benefits Other Than Pensions (OPEB). This statement replaces and significantly modifies prior guidance. GASB 45 is effective for government entities as early as fiscal years beginning after December 15, 2006.

There are several reasons an agency should review its OPEB obligations sooner rather than later, such as:

- Pre-funding alternatives – although funding is not required, an unfunded plan results in higher balance sheet liabilities and costs
- Bargaining issues – recognizing how the obligation will impact the collective bargaining process in the near and long term
- Bond rating – potential impact to the cost of debt due to unfunded liabilities

The liabilities and annual costs for the County's contribution promises to retirees are calculated in this actuarial valuation in accordance with GASB 45. Similar to most government entities, the County does not currently prefund contributions in a qualified irrevocable trust or recognize OPEB liability as benefits are accrued. As this report shows, any required accrual determined on a GASB basis will be considerably higher than the amount on a pay-as-you-go basis.

This actuarial valuation determines the liabilities and annual costs for benefits assuming the County adopts GASB 45 for the fiscal year ending June 30, 2008.

# Executive Summary (cont.)

*ARC Development*

GASB requires an Annual Required Contribution (ARC) to be developed each year based on the Plan's assets and liabilities. Although GASB does not actually require prefunding, the portion of the ARC that is not funded each year accumulates as a liability on the County's financial statements.

The ARC can be developed under a variety of funding methods. This report shows results under two of the methods permitted – Aggregate and Entry Age Normal. We also show the ARC calculated using different amortization periods as a level percent of pay.

**Summary of Results**

*Liabilities*

There are a few terms to understand related to the Plan's liabilities. The Present Value of Benefits (PVB) represents the actuarial present value of all future benefits expected to be paid to current employees and retirees. The Actuarial Accrued Liability (AAL) is the portion of the PVB attributable to past service. The Normal Cost is the portion of the PVB that is allocated to the current plan year for active employees.

Each liability is a present value calculated by using a selected discount rate. Results in this report are shown using a 5.0% discount rate. In order to understand the sensitivity of results to changing this assumption, we also show results based on a 7.75% discount rate. The table below summarizes the liability results based on these two discount rates as of July 1, 2007:

| | 5.0% | 7.75% |
|---|---|---|
| Present Value of Benefits (PVB) | $140,924,000 | $97,799,000 |
| Actuarial Accrued Liability (AAL) | $129,377,000 | $92,108,000 |
| Normal Cost | $1,747,000 | $995,000 |

Note: The AAL and normal cost shown above were calculated by spreading costs over the participants' working lifetimes as a level percentage of pay. The costs could also be spread as level dollar amounts.

As an explanation of the meaning of the discount rate, the PVB using a 7.75% discount rate implies that if the County invested $97,799,000 today in an interest bearing account that earns 7.75%, the liabilities would be fully funded. By comparison, if the interest bearing account were to only earn 5.0%, $140,924,000 would be required to fully fund the liability.

# Executive Summary (cont.)

*Discount Rate Selection*

As illustrated above, the discount rate can have a considerable impact on the magnitude of the liabilities, with lower discount rates resulting in higher liabilities. As guidance in selecting an appropriate discount rate, GASB states that the discount rate should be based on the long-term yield of investments used to finance the benefits.

For example, if the County were to pre-fund the obligations by contributing into a trust with a mix of asset classes, 7.75% might be an appropriate discount rate. However, for an unfunded plan or in the case where contributions are simply allocated to separate accounts, but still reside in general assets, it is more appropriate to consider the return on general County assets. The liabilities shown in the report are based on a 5.0% discount rate, assuming the plan is unfunded. A policy of partial pre-funding would result in a discount rate blended between these two rates.

If the County wanted to better understand the long term advantages and disadvantages to pre-funding in a trust, a study which projects cash flow, accrual amounts, and balance sheet obligations based on current and future participants should be performed.

*Annual Required Contributions (ARC)*

As discussed above, the ARC can be developed using various methodologies. Selecting an appropriate method and amortization period for funding the liabilities is a balance between the County's ability to pay costs immediately and the long-term cost of borrowing.

The following table summarizes the ARC under the methodologies provided in the report based on both the 5.00% and 7.75% discount rates for the fiscal year ending June 30, 2008:

| | 5.00% | 7.75% |
|---|---|---|
| Aggregate Method | $17,346,000 | $13,600,000 |
| % of pay | 68.7% | 53.8% |
| Entry Age Normal Method | | |
| 30 year amortization | $7,372,000 | $6,634,000 |
| % of pay | 29.2% | 26.3% |
| 20 year amortization | $9,516,000 | $8,067,000 |
| % of pay | 37.7% | 31.9% |
| 10 year amortization | $16,009,000 | $12,633,000 |
| % of pay | 63.4% | 50.0% |

*The payroll that the percentage of pay figures shown above are based on only includes active employees eligible for benefits, i.e., hired before September 1998.*

These annual costs can be compared to the estimated pay-as-you-go funding amount of $4,713,000.

# Executive Summary (cont.)

The difference in the cost methods is the period over which past service liabilities are spread. The aggregate method spreads unfunded past service liabilities over the future working lifetimes of active participants while the entry age normal method spreads unfunded past service liabilities over the specified amortization period. It should be noted that the entry age normal method with costs spread as a level percent of pay is used to determine the ARC for the Mendocino County Employees' Retirement Association plan.

The results shown are developed by spreading costs as a level percent of payroll ($25.3 million), as compared to a level dollar amount. Funding as a percent of payroll reduces current costs but increases future costs as County payroll increases. Funding over a longer period reduces annual costs but extends the funding period.

**Sensitivity to Healthcare Trend**

The healthcare trend rate also has a significant effect on the amounts reported. To illustrate, increasing the healthcare trend rates by one percentage point each year would increase the accrual by approximately 15%-16%.

* * *

The following report shows the details of results by participant status and benefits provided, based on a 5.0% discount rate.

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# 1. Actuarial Valuation Certificate

This report presents the results of the actuarial valuation for the County of Mendocino Retirement Health Plan as of July 1, 2007 for development of the Annual Required Contribution and disclosure items under Governmental Accounting Standards Board (GASB) Statement 45.

This report was prepared using generally accepted actuarial practices and methods. The actuarial assumptions used in the calculations are individually reasonable and reasonable in aggregate.

Aon Consulting did not audit the employee data and financial information used in this valuation. On the basis of our review of this data, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

Actuarial computations under GASB 45 are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations for purposes other than meeting Employer financial accounting requirements may be different from these results. As required by GASB 45, this valuation assumes this will be an ongoing plan. However, this assumption does not imply any obligation by the employer to continue the plan.

This report is intended for the sole use of the County of Mendocino. It is intended only to supply information for the County to comply with the stated purpose of the report and may not be appropriate for other business purposes. Reliance on information contained in this report by anyone for other than the intended purposes, puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the County of Mendocino should base any representations or warranties in any business agreement on any statements or conclusions contained in this report without the written consent of Aon Consulting.

The actuaries whose signatures appear below are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuaries are available to answer any questions with regard to the matters enumerated in this report.

# 1. Actuarial Valuation Certificate (cont.)

Aon's relationship with the Plan and the Plan Sponsor is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of our work.

Respectfully submitted,


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August 21, 2008

# 2. Plan Liabilities

The liabilities shown in this exhibit were calculated using a 5.0% discount rate as of the July 1, 2007 valuation date. They are utilized in the development of the Annual Required Contribution (ARC) under various alternatives shown in the following exhibit.

While GASB 45 allows the development of the ARC under various funding cost methods, this report shows the ARC under the Aggregate and Entry Age Normal cost methods, which are based on the following PVB and AAL liabilities, respectively.

The **Present Value of Benefits (PVB)** represents the actuarial present value of all benefits ever to be paid to current employees and retirees. The PVB follows:

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| PVB | | | | |
| *Medical – Pre 65* | | | | |
| Actives | $ $7,821,000 | $ 4,467,000 | $ 1,050,000 | $ 13,338,000 |
| Retirees | 13,189,000 | 2,282,000 | 709,000 | 16,180,000 |
| Subtotal | $ $21,010,000 | $ 6,749,000 | $ 1,759,000 | $ 29,518,000 |
| *Medical – Post 65* | | | | |
| Actives | $ 12,252,000 | $ 1,262,000 | $ 375,000 | $ 13,889,000 |
| Retirees | 19,911,000 | 2,783,000 | 495,000 | 23,189,000 |
| Subtotal | $ 32,163,000 | $ 4,045,000 | $ 870,000 | $ 37,078,000 |
| *Drugs – Pre 65* | | | | |
| Actives | $ 2,021,000 | $ 1,150,000 | $ 271,000 | $ 3,442,000 |
| Retirees | 3,461,000 | 598,000 | 186,000 | 4,245,000 |
| Subtotal | $ 5,482,000 | $ 1,748,000 | $ 457,000 | $ 7,687,000 |
| *Drugs – Post 65* | | | | |
| Actives | $ 15,697,000 | $ 1,616,000 | $ 480,000 | $ 17,793,000 |
| Retirees | 25,665,000 | 3,583,000 | 635,000 | 29,883,000 |
| Subtotal | $ 41,362,000 | $ 5,199,000 | $ 1,115,000 | $ 47,676,000 |
| *Administrative Expenses* | | | | |
| Actives | $ 5,389,000 | $ 998,000 | $ 275,000 | $ 6,662,000 |
| Retirees | 10,331,000 | 1,653,000 | 319,000 | 12,303,000 |
| Subtotal | $ 15,720,000 | $ 2,651,000 | $ 594,000 | $ 18,965,000 |
| *Total* | | | | |
| Actives | $ 43,180,000 | $ 9,493,000 | $ 2,451,000 | $ 55,124,000 |
| Retirees | 72,557,000 | 10,899,000 | 2,344,000 | 85,800,000 |
| Total PVB | $ 115,737,000 | $ 20,392,000 | $ 4,795,000 | $ 140,924,000 |
| PVB Per Participant | | | | |
| Actives | $ 116,000 | $ 136,000 | $ 144,000 | $ 120,000 |
| Retirees | $ 130,000 | $ 142,000 | $ 180,000 | $ 132,000 |

# 2. Plan Liabilities (cont.)

The **Actuarial Accrued Liability (AAL)** is a portion of the PVB attributable to past service. For retirees and fully eligible active employees, the AAL is equal to the PVB. For other active employees, the AAL is the portion of the PVB deemed to be accrued to date. The **Normal Cost** is the portion of the PVB that is allocated to the current plan year for active employees.

The AAL in this report is based on the Entry Age Normal cost method and has been developed by spreading costs as a level percentage of payroll.

The AAL developed by spreading costs as a level percentage of payroll follows:

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| AAL | | | | |
| *Medical – Pre 65* | | | | |
| Actives | $ 5,739,000 | $ 3,168,000 | $ 716,000 | $ 9,623,000 |
| Retirees | 13,189,000 | 2,282,000 | 709,000 | 16,180,000 |
| Subtotal | $ 18,928,000 | $ 5,450,000 | $ 1,425,000 | $ 25,803,000 |
| *Medical – Post 65* | | | | |
| Actives | $ 10,058,000 | $ 1,085,000 | $ 323,000 | $ 11,466,000 |
| Retirees | 19,911,000 | 2,783,000 | 495,000 | 23,189,000 |
| Subtotal | $ 29,969,000 | $ 3,868,000 | $ 818,000 | $ 34,655,000 |
| *Drugs – Pre 65* | | | | |
| Actives | $ 1,483,000 | $ 815,000 | $ 185,000 | $ 2,483,000 |
| Retirees | 3,461,000 | 598,000 | 186,000 | 4,245,000 |
| Subtotal | $ 4,944,000 | $ 1,413,000 | $ 371,000 | $ 6,728,000 |
| *Drugs – Post 65* | | | | |
| Actives | $ 12,887,000 | $ 1,389,000 | $ 413,000 | $ 14,689,000 |
| Retirees | 25,665,000 | 3,583,000 | 635,000 | 29,883,000 |
| Subtotal | $ 38,552,000 | $ 4,972,000 | $ 1,048,000 | $ 44,572,000 |
| *Administrative Expenses* | | | | |
| Actives | $ 4,355,000 | $ 770,000 | $ 211,000 | $ 5,316,000 |
| Retirees | 10,331,000 | 1,653,000 | 319,000 | 12,303,000 |
| Subtotal | $ 14,666,000 | $ 2,423 ,000 | $ 530,000 | $ 17,619,000 |
| *Total* | | | | |
| Actives | $ 34,502,000 | $ 7,227,000 | $ 1,848,000 | $ 43,577,000 |
| Retirees | 72,557,000 | 10,899,000 | 2,344,000 | 85,800,000 |
| Total AAL | $ 107,059,000 | $ 18,126,000 | $ 4,192,000 | $ 129,377,000 |
| AAL Per Participant | | | | |
| Actives | $ 93,000 | $ 103,000 | $ 109,000 | $ 95,000 |
| Retirees | $ 130,000 | $ 142,000 | $ 180,000 | $ 132,000 |
| Normal Cost | | | | |
| *Medical – Pre 65* | $ 282,000 | $ 192,000 | $ 60,000 | $ 534,000 |
| *Medical – Post 65* | 340,000 | 31,000 | 11,000 | 382,000 |
| *Drugs – Pre 65* | 73,000 | 49,000 | 15,000 | 137,000 |
| *Drugs – Post 65* | 436,000 | 40,000 | 13,000 | 489,000 |
| *Administrative Expenses* | 158,000 | 35,000 | 12,000 | 205,000 |
| Total Normal Cost | $ 1,289,000 | $ 347,000 | $ 111,000 | $ 1,747,000 |
| Normal Cost Per Active | $ 3,000 | $ 5,000 | $ 7,000 | $ 4,000 |

# 3. Annual Required Contributions

The ARC amounts shown on this page are determined by amortizing future costs as a level percent of payroll. The level percent of payroll method results in lower current costs compared to level amount amortization, but increases future costs as County payroll increases over time.

The ARC amounts shown assume payments are made at the end of the year. The assets are allocated proportionately to the actuarial accrued liability for illustration purposes.

### Aggregate Cost Method

The Aggregate method is one of the more basic and easy to understand cost methods. Under this method, the ARC is the amount required to fund the unfunded PVB over the future working lifetime of active participants.

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| PVB | $ 115,737,000 | $ 20,392,000 | $ 4,795,000 | $ 140,924,000 |
| Assets | 0 | 0 | 0 | 0 |
| Unfunded PVB | $ 115,737,000 | $ 20,392,000 | $ 4,795,000 | $ 140,924,000 |
| *ARC* | $ 14,246,000 | $ 2,510,000 | $ 590,000 | $ 17,346,000 |
| Percent of Payroll | 71.8% | 55.0% | 68.4% | 68.7% |

### Entry Age Normal Cost Method

The Entry Age Normal method is used to develop the Mendocino County Employees' Retirement Association pension costs. Under this method, the ARC is equal to the Normal Cost plus the amortization of the unfunded AAL over the selected period.

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| Accrued Liability | $ 107,059,000 | $ 18,126,000 | $ 4,192,000 | $ 129,377,000 |
| Assets (allocated by AAL) | 0 | 0 | 0 | 0 |
| Unfunded Accrued Liability | $ 107,059,000 | $ 18,126,000 | $ 4,192,000 | $ 129,377,000 |
| Normal cost, plus interest | $ 1,353,000 | $ 365,000 | $ 117,000 | $ 1,835,000 |
| Percent of payroll | 6.8% | 8.0% | 13.6% | 7.3% |
| ARC | | | | |
| - 30 year amortization | $ 5,935,000 | $ 1,141,000 | $ 296,000 | $ 7,372,000 |
| Percent of Payroll | 29.9% | 25.0% | 34.3% | 29.2% |
| - 20 year amortization | $ 7,709,000 | $ 1,441,000 | $ 366,000 | $ 9,516,000 |
| Percent of Payroll | 38.9% | 31.6% | 42.4% | 37.7% |
| - 10 year amortization | $ 13,082,000 | $ 2,351,000 | $ 576,000 | $ 16,009,000 |
| Percent of Payroll | 66.0% | 51.5% | 66.8% | 63.4% |

Note: 30 years is the longest period that GASB allows for amortizing unfunded liabilities.

# 4. Projected Benefit Payments

The following table shows the estimated projected net County benefit payments based on the current plan provisions, current plan participants, and the valuation assumptions used in this report.  The payments would be equivalent to funding the liabilities on a pay-as-you-go basis.

| Year Ending June 30 | Distributions |
|---|---|
| 2008 | $ 4,713,000 |
| 2009 | 5,407,000 |
| 2010 | 6,013,000 |
| 2011 | 6,451,000 |
| 2012 | 6,849,000 |
| 2013 | 7,216,000 |
| 2014 | 7,523,000 |
| 2015 | 7,627,000 |
| 2016 | 7,811,000 |
| 2017 | 7,970,000 |
| 2018 | 8,213,000 |
| 2019 | 8,382,000 |
| 2020 | 8,578,000 |
| 2021 | 8,712,000 |
| 2022 | 8,969,000 |
| 2023 | 9,070,000 |
| 2024 | 9,082,000 |
| 2025 | 9,235,000 |
| 2026 | 9,372,000 |
| 2027 | 9,442,000 |
| 2028 | 9,457,000 |
| 2029 | 9,522,000 |
| 2030 | 9,545,000 |
| 2031 | 9,489,000 |
| 2032 | 9,377,000 |
| 2033 | 9,249,000 |
| 2034 | 9,049,000 |
| 2035 | 8,786,000 |
| 2036 | 8,567,000 |
| 2037 | 8,343,000 |

# 5. GASB Reporting and Disclosure Information

GASB 45 requires certain items to be disclosed in the footnotes to the County's financial statements, including the following:

- Plan description
  - Name of plan and identification of the entity that administers plan
  - Brief description of the types of benefits
- Funding policy
  - Required contribution rates of plan members
  - Required contribution rates of employer

In addition, the tables below show required supplementary information to be shown with three years of historical information in the County's financial statements.

*Sample information is shown as if the County adopted GASB 45 for the current fiscal year, elected to use the entry age normal cost method with unfunded liabilities amortized over 30 years, and continues to fund on a pay-as-you-go basis.*

*Development of Net OPEB Obligation (NOO) and Annual OPEB Cost (000s omitted)*

| Fiscal Year | Annual Required Contributions | Actual Contribution | NOO End of Year | Interest on Net OPEB Obligation | Adjustment to the Annual Required Contribution | Annual OPEB Cost | Interest Rate | Salary Scale | Amortization Factor |
|---|---|---|---|---|---|---|---|---|---|
| 07/08 | $7,372 | $4,713 | $2,659 | $0 | $0 | $7,372 | 5.0% | 3.25% | 23.4 |

*Schedule of Funding Progress (000s omitted)*

| Type of Valuation | Actuarial Valuation Date | Actuarial Value of Assets | Actuarial Accrued Liability | Unfunded Actuarial Accrued Liability | Funded Ratio | Covered Payroll | UAAL as a Percent of Covered Payroll | Interest Rate | Salary Scale |
|---|---|---|---|---|---|---|---|---|---|
| Actual | 07/01/2007 | $0 | $129,377 | $129,377 | 0.0% | $25,261 | 512.2% | 5.0% | 3.25% |

*Schedule of Employer Contributions (000s omitted)*

| Fiscal Year Ending: | Annual OPEB Costs | Actual Contribution | Percentage Contribution | Net OPEB Obligation |
|---|---|---|---|---|
| 6/30/2008 | $7,372 | $4,713 | 64% | $2,659 |

# 6. Participant Information

This exhibit contains participant demographic information.

**Participant Statistics**

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| *Actives* | | | | |
| Number of actives | 372 | 70 | 17 | 459 |
| Average age of actives | 51.7 | 44.2 | 48.4 | 50.4 |
| Average past service | 15.8 | 15.3 | 14.4 | 15.7 |
| Average future service | | | | 8.8 |
| Covered payroll (in millions), FYE 6/30/08 | $19.8 | $4.6 | $0.9 | $25.3 |
| | | | | |
| Retirees | | | | |
| Number of retirees | 559 | 77 | 13 | 649 |
| Number of retiree spouses | 44 | 2 | 17 | 63 |
| Average age of retirees | 67.7 | 63.4 | 57.2 | 67.0 |

**Active Employee Age/Service Distribution**

The following table displays the age and service for active employees eligible for benefits.

| | Years of Eligible Service | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Age | <10 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | >=35 | Total |
| 25-29 | | 3 | | | | | | 3 |
| 30-34 | 9 | 8 | | | | | | 17 |
| 35-39 | 4 | 27 | 6 | | | | | 37 |
| 40-44 | 4 | 31 | 13 | 5 | | | | 53 |
| 45-49 | 8 | 32 | 23 | 20 | 3 | | | 86 |
| 50-54 | 6 | 35 | 21 | 15 | 11 | 5 | | 93 |
| 55-59 | 5 | 51 | 17 | 13 | 12 | 9 | 4 | 111 |
| 60-64 | 7 | 21 | 12 | 9 | | | | 49 |
| >65 | | 5 | 2 | | 2 | 1 | | 10 |
| Total | 43 | 213 | 94 | 62 | 28 | 15 | 4 | 459 |

**Distribution of Retired Participants by Medical Coverage**

| | General | Safety | Probation | Total |
|---|---|---|---|---|
| Employee only | 515 | 60 | 11 | 586 |
| Employee + Spouse | 43 | 17 | 2 | 62 |
| Employee + Child | 1 | | | 1 |
| Total | 559 | 77 | 13 | 649 |

# 7. Summary of Principal Plan Provisions

The following plan provisions are the basis for the calculations in this actuarial valuation.

**1. Benefit Eligibility**

Employees hired before September 1998 who retire from active employment with Mendocino County and meet the requirements below are eligible for lifetime coverage under the Mendocino County Employees Retirement Health Plan.

An employee is eligible for retiree coverage for life if he or she:

1. has 10 or more years of service with Mendocino County;
2. is at least age 50 on the date of retirement; and
3. makes the required contributions (if any) for retiree coverage as required by the Plan Administrator.

**2. Benefits Provided**

Under the plan, the County pays for prescription drugs and for medical benefits, such as those listed below, subject to different deductibles, copays, and limits[i]:

- Hospital Services
- Skilled Nursing Facility
- Home Health Care
- Private Duty Nursing
- Hospice Care
- X-Ray
- Radiation / Chemotherapy
- Acupuncture
- Spinal Manipulation / Chiropractic Service
- Ambulance Service
- Therapy (Speech, Physical, and Occupational)
- Durable Medical Equipment
- Prosthetics / Orthotic
- Christian science
- Mental Disorders and Substance Abuse
- Preventive Care
- Organ and Tissue Transplant
- Pregnancy

**3. Dependent Coverage**

A Retiree's Spouse and/or Dependent children may be eligible for coverage if they have been covered by the Mendocino County Employee Health Insurance Plan for six (6) months or more prior to the retirement of the Employee.

The dependent's coverage stops when the retiree's coverage under the Plan terminates for any reason including death.

**4. Retiree Contributions**

Retirees have no required contributions for their own coverage. A contribution of $510.00 per month is required for dependent coverage.

[i] Please refer to the Plan Document for Mendocino County Employees Retirement Health Plan for more details

# 8. Actuarial Assumptions

**1. Actuarial Cost Method**

The costs shown in the report were developed using two different funding methods:

Under the Aggregate cost method, the ARC equals an amortization of the unfunded present value of future benefits, based on the following:

- Period equal to the average future working lifetime of active participants
- Level percentage of future payroll amounts

The Entry Age Normal (EAN) cost method spreads plan costs for each participant from entry date (assuming the plan existed on the employee's hire date) to the expected retirement date. Under the EAN cost method, the plan's normal cost is developed as a level percentage of payroll spread over the participants' working lifetime. The AAL is the cumulative value, on the valuation date, of prior normal costs. For retirees, the AAL is the present value of all projected benefits.

The ARC under this method equals the normal cost plus the amortization of the unfunded AAL based on the following:

- Specified amortization period (10, 20, or 30 years are shown)
- Level percentage of future payroll amounts

The Plan costs are derived by making certain specific assumptions as to the rates of interest, mortality, turnover, and the like, which are assumed to hold for many years into the future. Actual experience may differ somewhat from the assumptions and the effect of such differences is spread over all periods. Due to these differences, the costs determined by the valuation must be regarded as estimates of the true Plan costs.

**2. Discount Rate**

5.0% - This is based on the assumption that benefits will be paid from general County assets, or paid from a separate trust where assets are invested relatively conservatively.

7.75% was used for the illustration of results assuming the County pre-funds benefits in a trust with a mix of assets classes.

**3. Payroll Increases**

3.25% - This is the annual rate at which total payroll ($25.3 million) is expected to increase and is used in the cost method used to calculate the ARC as a level percent of payroll.

# 8. Actuarial Assumptions (cont.)

**4. Mortality**

*The mortality assumptions are the same as those used in the actuarial valuation of the Mendocino County Employees' Retirement Association.*

***Pre-retirement Mortality***

| | |
|---|---|
| General Members: | 1994 Group Annuity Mortality Table for Males, set back 3 years |
| Safety Members: | 1994 Group Annuity Mortality Table for Males, with no set back |
| Probation Members: | 1994 Group Annuity Mortality Table for Males, with no set back |

***Post-retirement Mortality***

| | |
|---|---|
| General Members: | 1994 Group Annuity Mortality Table for Males or Females, with no set back |
| Safety Members: | 1994 Group Annuity Mortality Table for Males, with no set back |
| Probation Members: | 1994 Group Annuity Mortality Table for Males, with no set back |

**5. Turnover**

*The turnover assumptions are the same as those used in the actuarial valuation of the Mendocino County Employees' Retirement Association.*

Rates of withdrawal are based on age. Sample rates are as follow:

| Age | General Members Males | General Members Females | Safety Members | Probation Members |
|---|---|---|---|---|
| 25 | 0.22032 | 0.16800 | 0.14850 | 0.14850 |
| 30 | 0.19920 | 0.14844 | 0.11925 | 0.11925 |
| 35 | 0.14868 | 0.13232 | 0.09075 | 0.09075 |
| 40 | 0.12816 | 0.11232 | 0.07050 | 0.07050 |
| 45 | 0.08940 | 0.10104 | 0.04350 | 0.04350 |
| 50 | 0.07020 | 0.06972 | 0.01200 | 0.01200 |

# 8. Actuarial Assumptions (cont.)

## 6. Retirement Age

*The retirement assumptions are the same as those used in the actuarial valuation of the Mendocino County Employees' Retirement Association.*

Rates for eligible participants are as follow:

| Age | General Members Males | General Members Females | Safety Members | Probation Members |
|---|---|---|---|---|
| 45 | - | - | 0.0050 | - |
| 46 | - | - | 0.0058 | - |
| 47 | - | - | 0.0066 | - |
| 48 | - | - | 0.0076 | - |
| 49 | - | - | 0.0088 | - |
| 50 | 0.0150 | 0.0300 | 0.0460 | 0.0400 |
| 51 | 0.0150 | 0.0300 | 0.0460 | 0.0400 |
| 52 | 0.0150 | 0.0300 | 0.0460 | 0.0400 |
| 53 | 0.0150 | 0.0300 | 0.0920 | 0.0800 |
| 54 | 0.0150 | 0.0300 | 0.1035 | 0.0900 |
| 55 | 0.0450 | 0.0300 | 0.1263 | 0.1250 |
| 56 | 0.0300 | 0.0300 | 0.1500 | 0.1500 |
| 57 | 0.0300 | 0.0300 | 0.2000 | 0.2000 |
| 58 | 0.0300 | 0.0600 | 0.2500 | 0.2500 |
| 59 | 0.0375 | 0.0600 | 0.3750 | 0.3750 |
| 60 | 0.0750 | 0.0600 | 1.0000 | 1.0000 |
| 61 | 0.1950 | 0.1000 | - | - |
| 62 | 0.2250 | 0.1500 | - | - |
| 63 | 0.1125 | 0.1500 | - | - |
| 64 | 0.1875 | 0.1500 | - | - |
| 65 | 0.5250 | 0.5000 | - | - |
| 66 | 0.6000 | 0.6000 | - | - |
| 67 | 0.6375 | 0.6000 | - | - |
| 68 | 0.6750 | 0.9000 | - | - |
| 69 | 0.7125 | 0.9500 | - | - |
| 70 | 1.0000 | 1.0000 | - | - |

# 8. Actuarial Assumptions (cont.)

**7. Annual Medical Inflation ("Trend")**

The medical trend rate represents the long-term expected growth of medical benefits paid by the plan, due to non-age-related factors such as general medical inflation, utilization, new technology, and the like. The following table sets forth the trend assumptions used for the valuation:

| Year | Medical | Drugs |
|---|---|---|
| 2007 | 11.0% | 10.0% |
| 2008 | 10.0 | 9.0 |
| 2009 | 9.0 | 8.0 |
| 2010 | 8.0 | 7.0 |
| 2011 | 7.0 | 6.5 |
| 2012 | 6.5 | 6.0 |
| 2013 | 6.0 | 5.5 |
| 2014 | 5.5 | 5.0 |
| 2015+ | 5.0 | 5.0 |

**8. 2007-2008 Base Year Claims**

Medical claims are developed based on separate pre-65 and post-65 claims data. These claims were trended to July 1, 2007 and spread by age using varying morbidity rates.

Sample annual medical claims per individual are assumed as follows:

| Age | Medical | Drugs |
|---|---|---|
| 50 | $ 4,535 | $ 1,229 |
| 55 | 5,335 | 1,446 |
| 60 | 6,367 | 1,726 |
| 65 | 1,414 | 1,914 |
| 70 | 1,639 | 2,219 |
| 75 | 1,854 | 2,510 |
| 80 | 2,047 | 2,770 |
| 85 | 2,151 | 2,912 |

**9. Administrative Expenses**

Administrative expenses are assumed to equal $100 per member per month and are assumed to increase 3.0% per annum.

**10. Retiree Contributions**

There are no retiree contributions except for dependent coverage.

# 8. Actuarial Assumptions (cont.)

**11. Participants Valued**

Only current active employees hired before September 1998 and retired participants are valued.

**12. Plan Participation**

100% of future eligible retirees are assumed to elect coverage.

**13. Spouse Assumption**

Current retirees are assumed to continue coverage based on their current elections. For future retirees, 10% are assumed to elect employee plus one coverage.

Actual spouse date of birth is used where available. Otherwise, females are assumed to 3 years younger than their male spouses.

# 9. Glossary

**Actuarial Accrued Liability (AAL)**

As determined by a particular Actuarial Cost Method, the portion of the Actuarial Present Value of plan benefits and expenses which is attributable to past service, and thus not provided for by future Normal Costs.

**Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting benefit costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and employer provided benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items. The Actuarial Assumptions are used in connection with the Actuarial Cost Method to allocate plan costs over the working lifetime of plan participants.

**Actuarial Cost Method**

A procedure for determining the Actuarial Present Value of plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods (e.g., past service, future service), usually in the form of a Normal Cost and an Actuarial Accrued Liability.

**Actuarial Experience Gain or Loss**

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation Dates, as determined in accordance with a particular Actuarial Cost Method.

**Actuarial Present Value**

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.).
b. multiplied by the probability of the occurrence of an event (such as survival, death disability, termination of employment, etc.) on which the payment is conditioned, and
c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

# 9. Glossary (cont.)

**Actuarial Present Value of Total Projected Benefits or Present Value of Benefits (PVB)**

Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.

**Actuarial Valuation**

The determination, as of a Valuation Date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a benefit plan.

**Actuarial Valuation Date**

The date as of which an actuarial valuation is performed.

**Actuarial Value of Assets**

The value of cash, investments, and other property belonging to a benefit plan, as used by the actuary for the purpose of an Actuarial Valuation.

**Agent Multiple-Employer Plan**

An aggregation of single-employer plans, with pooled administrative and investment functions. Separate accounts are maintained for each employer so that the employer's contributions provide benefits only for the employees of that employer. A separate actuarial valuation is performed for each individual employer's plan to determine the employer's periodic contribution rate and other information for the individual plan, based on the benefit formula selected by the employer and the individual plan's proportionate share of the pooled assets. The results of the individual valuations are aggregated at the administrative level.

**Aggregate Actuarial Cost Method**

A method under which the excess of the Actuarial Present Value of Projected Benefits of the group included in an Actuarial Valuation over the Actuarial Value of Assets is allocated on a level basis over the earnings or service of the group between the valuation date and assumed exit. This allocation is performed for the group as a whole, not as a sum of individual allocations. That portion of the Actuarial Present Value allocated to a valuation year is called the Normal Cost. The Actuarial Accrued Liability is equal to the Actuarial Value of Assets.

# 9. Glossary (cont.)

**Amortization (of Unfunded Actuarial Accrued Liability)**

The portion of benefit plan costs or contributions which is designed to pay off principal and interest on the Unfunded Actuarial Accrued Liability.

**Annual OPEB Cost (AOC)**

An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.

**Annual Required Contributions of the Employer (ARC)**

The employer's periodic required contributions to a Defined Benefit OPEB Plan, which is the basis for determining an employer's Annual OPEB Cost. For a Cost Sharing Multiple-Employer Plan, the Contractually Required Contributions should be used to determine an employer's Annual OPEB Cost.

**Contractually Required Contributions (CRC)**

The contributions assessed by a Cost Sharing Multiple-Employer Plan to the participating employer for a period, without regard for the method used to determine the amounts.

**Cost Sharing Multiple-Employer Plan**

A single plan with pooling (cost-sharing) arrangements for the participating employers. All risks, rewards, and costs, including benefit costs, are shared and are not attributed individually to the employers. A single actuarial valuation covers all plan members, and the same contribution rate(s) applies for each employer.

**Covered Group**

Plan members included in an actuarial valuation.

**Deferred Inactives**

Former employees, not yet receiving retirement benefits, who are eligible for plan benefits in the future.

**Defined Benefit OPEB Plan**

An OPEB plan having terms that specify the benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

# 9. Glossary (cont.)

**Discount Rate (Investment Return Assumption)**

The rate used to adjust a series of future payments to determine the present value by reflecting the time value of money.

**Employer Contributions**

Contributions made in relation to the annual required contributions of the employer (ARC). An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) of plan administrator. Employer contributions generally do not necessarily equate to benefits paid.

**Entry Age Normal Actuarial Cost Method**

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

**Funded Ratio**

The actuarial value of assets expressed as a percentage of the Actuarial Accrued Liability.

**Funding Excess**

The excess of the Actuarial Value of Assets over the Actuarial Accrued Liability.

**Funding Policy**

The program for the amounts and timing of contributions to be made by plan members, employer(s), and other contributing entities to provide the benefits specified by an OPEB plan.

**Healthcare Cost Trend Rate**

The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

# 9. Glossary (cont.)

**Implicit Rate Subsidy**

The differential between utilizing a blend of active and non-Medicare retiree experience for cost of benefits, and utilizing solely the expected retiree experience. Blending a lower cost active cohort with retirees results in an implicit rate subsidy for the retirees of the entire group.

**Inactives**

Certain former employees with a minimum amount of years of creditable service who have benefits payable from the retirement system.

**Level Percentage of Projected Payroll Amortization Method**

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases (e.g., due to inflation); in dollars adjusted for inflation, the payments can be expected to remain level.

**Market-Related Value of Plan Assets**

A term used with reference to the actuarial value of assets. A market related value may be fair value, market value (or estimated market value), or a calculated value that recognizes changes in fair or market value over a period of, for example, three to five years.

**Net OPEB Obligation (NOO)**

The cumulative difference since the effective date of this Statement between Annual OPEB Cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

**Normal Cost**

The portion of the Actuarial Present Value of plan benefits and expenses that is allocated to a valuation year by the Actuarial Cost Method.

**OPEB Assets**

The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expense.

**OPEB Expenditures**

The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the modified accrual basis of accounting.

# 9. Glossary (cont.)

**OPEB Expense**

The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the accrual basis of accounting.

**OPEB Liabilities**

The amount recognized by an employer for contributions to an OPEB plan less than OPEB expense/expenditures.

**Other Postemployment Benefits (OPEB)**

Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

**Pay-As-You-Go**

A method of financing a plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

**Plan Assets**

Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan.

**Plan Members**

The individuals covered by the terms of an OPEB plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

**Postemployment**

The period between termination of employment and retirement as well as the period after retirement.

**Postemployment Healthcare Benefits**

Medical, dental, vision, and other health-related benefits provided to terminated or retired employees and their dependents and beneficiaries.

# 9. Glossary (cont.)

**Postretirement Benefit Increase**

An increase in the benefits of retirees or beneficiaries granted to compensate for the effects of inflation (cost-of-living adjustment) or for other reasons. Ad hoc increases may be granted periodically by a decision of the board of trustees, legislature, or other authoritative body; both the decision to grant an increase and the amount of the increase are discretionary. Automatic increases are periodic increases specified in the terms of the plan; they are nondiscretionary except to the extent that the plan terms can be changed.

**Projected Benefits**

Those plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. That portion of an individual's Projected Benefit allocated to service to date, determined in accordance with the terms of a plan and based on future compensation as projected to retirement, is called the Credited Projected Benefit.

**Projected Unit Credit Actuarial Cost Method**

A method under which the benefits (projected or unprojected) of each individual included in an Actuarial Valuation are allocated by a consistent formula to valuation years. The Actuarial Present Value of benefits allocated to a valuation year is called the Normal Cost. The Actuarial Present Value of benefits allocated to all periods prior to a valuation year is called the Actuarial Accrued Liability.

Under this method, the Actuarial Gains (or Losses), as they occur, generally reduce (or increase) the Unfunded Actuarial Accrued Liability.

Under this method, benefits are projected to all future points in time under the terms of the Plan and actuarial assumptions (for example, health trends). Retirees are considered to be fully attributed in their benefits. For actives, attribution is to expected retirement age; thus, benefits at each future point in time are allocated to past service based on a proration of service-to-date over total projected service.

**Required Supplementary Information (RSI)**

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

**Single-Employer Plan**

A plan that covers the current and former employees, including beneficiaries, of only one employer.

# 9. Glossary (cont.)

**Sponsor**

The entity that established the plan. The sponsor generally is the employer or one of the employers that participate in the plan to provide benefits for their employees and employees of other employers.

**Substantive Plan**

The terms of an OPEB plan as understood by the employer(s) and plan members.

**Transition Year**

The fiscal year in which this Statement is first implemented.

**Unfunded Actuarial Accrued Liability (Unfunded Actuarial Liability)**

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.