

# 2003 LEOFF 2 Actuarial Valuation Report



Report Prepared by

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*A special thank you to Charles Middleton for the use of his "firefighter saving girl" photo.*

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State Investment Board

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WASHINGTON STATE LEGISLATURE

# Office of the State Actuary

## Law Enforcement Officers and Firefighters Retirement System Plan 2 Actuarial Valuation Report (AVR) As of September 30, 2003 December 2004

As required under Chapter 41.45 RCW, this report documents the results of an actuarial valuation of the Law Enforcement Officers and Fire Fighters Retirement System Plan 2 (LEOFF 2).

The primary purpose of this valuation is to determine contribution requirements for LEOFF 2 as of the valuation date September 30, 2003. The report is organized in the following four sections:

- Summary of Key Results
- Actuarial Exhibits
- Participant Data
- Appendices

The Summary of Key Results section provides a high-level executive summary of the valuation results for the LEOFF 2 system. The remaining sections of the report provide detailed actuarial asset and liability information. The Appendix provides a summary of the principal actuarial assumptions and methods, summary of the major plan provisions, age-service distributions, historical data and a glossary of actuarial terms used throughout this report.

We encourage you to submit any questions you might have concerning this report to our regular or e-mail address below. We also invite you to visit our website (<http://osa.leg.wa.gov>) for further information regarding the actuarial funding of the Washington State retirement systems.

Sincerely,

Matthew M. Smith  
State Actuary

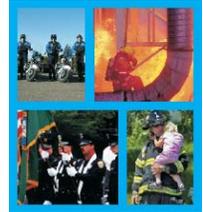
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# Summary of Key Results

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# Summary of Key Results

## Contribution Rates

Member and employer contribution rates determined from the actuarial valuation are expressed as a percentage of salary and summarized below along with comparable rates from the previous valuation. See the Actuarial Exhibits section of this report for the development of these rates.

| Contribution Rates |       |       |
|--------------------|-------|-------|
|                    | 2003  | 2002  |
| Member             | 7.20% | 6.41% |
| Employer           | 4.32% | 3.84% |
| Total State        | 2.88% | 2.57% |

## Contribution Rate-Setting Cycle

Under current Washington State law, in September of even-numbered years, the LEOFF Plan 2 Retirement Board (the Board) reviews the basic contribution rates recommended by the actuary retained by the Board based on an actuarial valuation performed on asset, participant and plan information compiled in odd-numbered years. The Board adopts contribution rates for LEOFF Plan 2 as provided under RCW 41.26.720(1)(a) and the rates remain in place for the ensuing biennium, subject to revision by the Legislature.

RCW 41.45.070 requires that a temporary and supplemental contribution rate increase be charged to fund the cost of benefit enhancements that are enacted following the adoption of the basic rates by the Board. Supplemental contribution rates are included in the basic rates at the beginning of the next contribution rate-setting cycle.

## Funding Policy

The funding policy of the Legislature is contained in Chapter 41.45 RCW - Actuarial Funding of State Retirement Systems. RCW 41.45.010 outlines the intent to achieve the following goals:

- To provide a dependable and systematic process for funding the benefits to members and retirees of the Washington State Retirement Systems;
- To continue to fully fund the LEOFF Plan 2, as provided by law;
- To establish predictable long-term employer contribution rates which will remain a relatively constant proportion of the future state budgets; and
- To fund, to the extent feasible, benefit increases over the working lives of those members so that the cost of those benefits are paid by the taxpayers who receive the benefit of those members' service.

## Comments on 2003 Results

Short-term actuarial gains or losses occur when actual economic and demographic experience differs from what was assumed in the valuation. Actuarial gains will reduce contribution rates; whereas, actuarial losses will increase contribution rates. Under a reasonable set of actuarial assumptions and methods, actuarial gains and losses will offset over long-term experience periods.

Significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates. Significant factors that impacted the results of this valuation include the following:

- The actual rate of investment return for the plan year was above the assumed rate of 8%. Actual investment return was 14.67% (time weighted).;
- New entrants continue to exert a modest upward adjustment on current contribution rates; and
- Actual salary growth was below the assumed growth for the period.

Please see the table, Actuarial Gains/Losses, in the Actuarial Exhibit section of this report for detailed gain and loss information.

## Actuarial Liabilities

A summary of key measures of actuarial liability is shown below along with comparable information from last year's valuation. See the Actuarial Exhibits section of this report for additional information on the plan's actuarial liability. See the Glossary for a brief explanation of the actuarial terms.

| <b>Actuarial Liabilities</b>                 |             |             |
|--|-------------|-------------|
| <i>(Dollars in millions)</i>                 | <b>2003</b> | <b>2002</b> |
| Present Value of Fully Projected Benefits    | \$4,383     | \$4,042     |
| Unfunded Actuarial Accrued Liability         | N/A         | N/A         |
| Present Value of Credited Projected Benefits | 2,194       | 1,937       |
| Valuation Interest Rate                      | 8.00%       | 8.00%       |

## Assets

The combined market value of assets and actuarial (or smoothed) value of assets are shown below along with approximate rates of investment return. See the Actuarial Exhibits section of this report for additional information on the plan's assets as well as the development of the actuarial value of assets.

Section 1  
**Summary of Key Results**

| <b>Assets</b>                |             |             |
|------------------------------|-------------|-------------|
| <i>(Dollars in millions)</i> | <b>2003</b> | <b>2002</b> |
| Market Value of Assets       | \$2,541     | \$2,136     |
| Actuarial Value of Assets    | \$2,740     | 2,646       |
| Contributions*               | 88          | 80          |
| Disbursements                | 10          | 11          |
| Investment Return            | 327         | (142)       |
| Rate of Return on Assets     | 14.67%      | (6.50%)     |

\*Employee and Employer

## Funded Status

Several key measures of the plan's funded status are displayed below.

| <b>Funded Status</b>                            |             |             |
|---|-------------|-------------|
| <i>(Dollars in millions)</i>                    | <b>2003</b> | <b>2002</b> |
| a. Present Value of Credited Projected Benefits | \$2,194     | \$1,937     |
| b. Actuarial Value of Assets                    | \$2,740     | 2,646       |
| c. Unfunded Liability (a-b)                     | (547)       | (709)       |
| d. Credited Projected Funded Ratio (b/a)        | 125%        | 137%        |

## Participant Data

Participant data used in the actuarial valuation for the plan year ending September 30, 2003 are summarized below along with comparable information from last year's valuation. See the Participant Data section of this report for additional information on the plan's participant data.

| <b>Participant Data</b>           |             |             |
|-----------------------------------|-------------|-------------|
|                                   | <b>2003</b> | <b>2002</b> |
| <b>Active Members</b>             |             |             |
| Number                            | 14,560      | 14,011      |
| Total Salaries (in millions)      | \$967       | \$902       |
| Average Annual Salary             | \$66,388    | \$64,347    |
| Average Attained Age              | 39.5        | 39.0        |
| Average Service                   | 10.7        | 10.4        |
| <b>Retirees and Beneficiaries</b> |             |             |
| Number                            | 316         | 244         |
| Average Annual Benefit            | \$16,087    | \$14,250    |
| <b>Terminated Members</b>         |             |             |
| Number Vested                     | 439         | 376         |
| Number "Non-Vested"               | 1,186       | 1,137       |

## **Key Assumptions**

Key economic assumptions used in the actuarial valuation are displayed below. These assumptions were unchanged from the previous year's valuation. See the Appendix - Actuarial Assumptions and Methods for a detailed listing of the actuarial assumptions used in this valuation.

| <b>Key Assumptions</b>  |       |
|-------------------------|-------|
| Valuation Interest Rate | 8.00% |
| Salary Increase         | 4.50% |
| Inflation               | 3.50% |
| Growth in Membership    | 1.25% |

# Actuarial Exhibits

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## Actuarial Certification

This report documents the results of an actuarial valuation of the Law Enforcement and Fire Fighters Retirement System Plan 2 as defined under Chapter 41.26 of the Revised Code of Washington. The primary purpose of this valuation is to determine contribution requirements for the retirement plan listed above as of the valuation date September 30, 2003 and should not be used for other purposes.

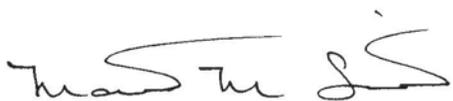
The valuation results summarized in this report involve calculations that require assumptions about future economic and demographic events. We believe that the assumptions and methods used in the underlying valuation are reasonable and appropriate for the primary purpose stated above. The use of another set of assumptions and methods, however, could also be reasonable and could result in materially different results.

The assumptions used in the valuation for investment return, inflation, salary and membership growth were prescribed by the Legislature in 2001. Demographic assumptions were developed from the 1995-2000 experience study performed by the Office of the State Actuary. The Legislature was responsible for the selection of the actuarial cost and asset valuation methods. In our opinion, all methods, assumptions and calculations are reasonable and are in conformity with generally accepted actuarial principles and standards as of the date of this publication.

The Department of Retirement Systems provided member and beneficiary data. We have checked the data for reasonableness as appropriate based on the purpose of the valuation. The State Investment Board, Department of Retirement Systems and the State Treasurer provided financial and asset information. An audit of the financial and participant data was not performed. We have relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this valuation.

The asset smoothing method adopted during the 2003 legislative session (Chapter 11, Laws of 2003, E1) was intended to address the volatility of contribution rates under the aggregate funding method when used in combination with the existing asset allocation policy. The combination of the current asset smoothing method with any other funding method or asset allocation policy may not be appropriate.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.



Matthew M. Smith, EA, MAAA  
State Actuary



Philip Martin McCaulay, FSA, MAAA  
Associate Actuary

## Contribution Rates

| <b>Member and Employer Rate Summary</b> |             |             |
|---|-------------|-------------|
|   | <b>2003</b> | <b>2002</b> |
| Member                                  | 7.20%       | 6.41%       |
| Employer                                | 4.32%       | 3.84%       |
| State (Normal Cost)                     | 2.88%       | 2.57%       |
| State (Plan 1 UAAL)                     | 0.00%       | 0.00%       |
| Total State                             | 2.88%       | 2.57%       |

| <b>Development of Employer/State Rates</b> |                     |
|--|---------------------|
| a. Total Normal Cost                       | 14.40%              |
| b. Employee Normal Cost                    | 7.20%               |
| c. Employer Contribution (a-b)             | 7.20%               |
| d. Cost to Amortize UAAL                   | <u>0.00%</u>        |
| e. Total Employer Contribution Rate (c+d)* | <b><u>4.32%</u></b> |

*\*The state pays 20% of the total normal cost for LEOFF 2. This reduces the total employer contribution rate from 7.20% to 4.32%.*

**Development of Normal Cost Rates**

(Dollars in millions)

**1. Calculation of Member Rate**

|    |   |         |
|----|---|---------|
| a. | Present Value of Fully Projected Benefits | \$4,379 |
| b. | Valuation Assets                          | 2,740   |
| c. | Unfunded Fully Projected Benefits (a - b) | 1,639   |
| d. | Contributions to 2005                     | 171     |
| e. | Adjusted Unfunded (c - d)                 | \$1,467 |

Present Value of Projected Salaries to Current Members (PVS)

|    |  |              |
|----|--|--------------|
| f. | Plan 1 PVS                               | N/A          |
| g. | Plan 2 PVS                               | \$10,221     |
| h. | Plan 3 PVS                               | N/A          |
| i. | Weighted PVS ( 2f + 2g + h)              | \$20,443     |
| j. | Member Normal Cost (e / i)               | 7.18%        |
| k. | Change In Plan Provisions (Laws of 2004) | 0.02%        |
| l. | <b>Member Contribution Rate (j + k)</b>  | <b>7.20%</b> |

**2. Calculation of Employer Rate**

|    |   |         |
|----|---|---------|
| a. | Present Value of Fully Projected Benefits   | \$4,379 |
| b. | Valuation Assets                            | 2,740   |
| c. | Unfunded Benefits (a - b)                   | 1,639   |
| d. | Contributions to 2005                       | 171     |
| e. | Unfunded Adjusted for Contributions (c - d) | 1,467   |
| f. | Present Value of Member Contributions       | 734     |
| g. | Employer Responsibility (e - f)             | \$734   |

Present Value of Projected Salaries to Current Members (PVS)

|    |   |              |
|----|---|--------------|
| h. | Plan 1 PVS                                | N/A          |
| i. | Plan 2 PVS                                | \$10,221     |
| j. | Plan 3 PVS                                | N/A          |
| k. | Weighted PVS (h + i + j)                  | \$10,221     |
| l. | Employer Normal Cost (g / k)              | 7.18%        |
| m. | Change In Plan Provisions (Laws of 2004)  | 0.02%        |
| n. | <b>Employer Contribution Rate (l + m)</b> | <b>7.20%</b> |

**3. Summary of Rates**

|    |  |               |
|----|--|---------------|
| a. | Member Contribution Rate (1.l.)*           | 7.20%         |
| b. | Employer Contribution Rate (2.n.)*         | 4.32%         |
| c. | State Contribution Rate*                   | 2.88%         |
| d. | <b>Total Contribution Rate (a + b + c)</b> | <b>14.40%</b> |

\*LEOFF 2 rate: 50% Employee, 30% Employer, 20% State

Section 2  
Actuarial Exhibits

**Amortization of the Plan 1 Unfunded Actuarial Accrued Liability (UAAL)**

| <i>(Dollars in millions)</i>  | <b>LEOFF 1</b> |
|---|----------------|
| a. Present Value of Fully Projected Benefits (PVFB)                 | \$4,342        |
| b. Valuation Assets   | 4,803          |
| c. Actuarial Present Value of Future Normal Costs                   | 0              |
| d. UAAL (a - b - c)   | (462)          |
| e. Expected UAAL Contributions to 2005                              | 0              |
| f. Remaining UAAL (d - e)   | (\$462)        |
| g. Amortization Date  | 6/30/2024      |
| h. Present Value of Projected Salaries beyond 2005                  | \$16,205       |
| i. <b>Contribution Rate to Amortize the remaining UAAL (f / h)*</b> | <b>(2.85%)</b> |

*Note: Totals may not agree due to rounding*

*\*LEOFF 1 is fully funded so no UAAL contributions are required*

## Actuarial Liabilities

| <b>Present Value of Fully Projected Benefits</b> |                |
|--|----------------|
| <i>(Dollars in millions)</i>                     |                |
| <b>Active Members</b>                            |                |
| Retirement                                       | \$4,020        |
| Termination                                      | 85             |
| Death  | 11             |
| Disability                                       | 5              |
| Return of Contributions on Termination           | 80             |
| Return of Contributions on Death                 | 38             |
| Portability                                      | 4              |
| <b>Total Active</b>                              | <b>\$4,242</b> |
| <b>Inactive Members</b>                          |                |
| Terminated                                       | \$67           |
| Service Retired                                  | 62             |
| Disability Retired                               | 6              |
| Survivors  | 3              |
| <b>Total Inactive</b>                            | <b>\$137</b>   |
| <b>Laws of 2004</b>                              | <b>4</b>       |
| <b>2003 Total</b>                                | <b>\$4,383</b> |
| <b>2002 Total</b>                                | <b>\$4,042</b> |

*Note: Totals may not agree due to rounding*

Section 2  
**Actuarial Exhibits**

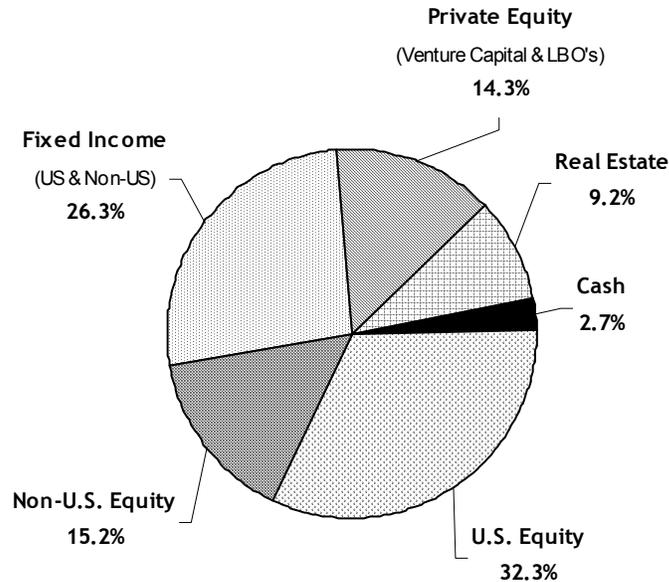
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| <b>Present Value of Credited Projected Benefits</b> |                |
|---|----------------|
| <i>(Dollars in millions)</i>                        |                |
| <b>Active Members</b>                               |                |
| Retirement  | \$1,939        |
| Termination   | 47             |
| Death   | 5              |
| Disability  | 2              |
| Return of Contributions on Termination              | 42             |
| Return of Contributions on Death                    | 19             |
| Portability   | 2              |
| <b>Total Active</b>                                 | <b>\$2,057</b> |
| <b>Inactive Members</b>                             |                |
| Terminated  | \$65           |
| Service Retired                                     | 62             |
| Disability Retired                                  | 6              |
| Survivors   | 3              |
| <b>Total Inactive</b>                               | <b>\$135</b>   |
| <b>Laws of 2004</b>                                 | <b>2</b>       |
| <b>2003 Total</b>                                   | <b>\$2,194</b> |
| <b>2002 Total</b>                                   | <b>\$1,937</b> |

*Note: Totals may not agree due to rounding*

## Plan Assets

### Retirement Commingled Trust Fund (CTF) Asset Allocation



**Cash:** Money held while being transferred between investments or placed temporarily in an interest-bearing account.

**U.S. Fixed Income:** U.S. Treasury and government bonds; investment-grade corporate bonds; publicly traded mortgage-backed securities; mortgages; asset-backed and convertible securities.

**Non-U.S. Fixed Income:** Foreign government bonds.

**U.S. Equity:** Stock in U.S. companies.

**Non-U.S. Equity:** Stock in foreign companies.

**Venture Capital:** Equity financing of early expansion and later-stage growth of small businesses.

**Leveraged Buy-outs (LBOs):** The purchase of all assets or stock in a company using borrowed funds.

**Real Estate:** Office and retail space; apartments; warehouses; hotels; etc.

Section 2  
**Actuarial Exhibits**

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**Change in Market Value of Assets**

*(Dollars in millions)*

**2002 Market Value** **\$2,136**

**Revenue**

Contributions

    Employee 44

    Employer/State 44

Total Contributions 88

Investment Return 327

Restorations 0

Transfers In 0

Miscellaneous 0

**Total Revenue** **\$415**

**Disbursements**

Withdrawn Annuities

    Monthly Benefits 4

    Refunds 6

Total Benefits 10

Transfers Out 0

Expenses 0

**Total Disbursements** **\$10**

**Payables** **\$0**

**2003 Market Value** **\$2,541**

**2003 Actuarial Value** **\$2,740**

**Ratio** **108%**

*Note: Totals may not agree due to rounding*

Section 2  
Actuarial Exhibits

| <b>Calculation of Actuarial Value of Assets</b>   |  |        |
|---|--|--------|
| <i>(Dollars in Millions)</i>                      | <b>Investment Gain/(Loss) for Prior Year</b> |        |
| a. 2002 Market Value (at SIB)                     | \$   | 2,131  |
| b. Total Cash Flow                                |  | 75     |
| c. 2003 Market Value (at SIB)                     |  | 2,533  |
| d. Actual return (c-b-a)                          | \$   | 327    |
| e. Weighted asset amount                          | \$   | 2,163  |
| f. Expected return (8% $\times$ e)                |  | 173    |
| g. Investment Gain/(Loss)<br>for Prior Year (d-f) |  | 154    |
| h. Dollar weighted rate of return                 |  | 15.13% |

| <b>Actuarial Value of Assets as of September 30, 2003</b> |                         |                         |
|---|-------------------------|-------------------------|
| <i>(Dollars in millions)</i>                              |                         |                         |
| a. Market Value at 9/30/2003                              |                         | \$2,541                 |
| b. Deferred Investment Gains and (Losses)                 |                         |                         |
|   | <u>Plan Year Ending</u> | <u>Percent Deferred</u> |
|   | 9/30/2003               | 87.5%                   |
|   | 9/30/2002               | 50.0%                   |
|   | 12/31/2001              | 25.0%                   |
|   | Total                   | (95)                    |
| c. <b>Actuarial Value of Assets (a-b)</b>                 |                         | <b>\$2,740</b>          |

*Note: Totals may not agree due to rounding*

**Funded Status**

**Development of Funded Ratio**

*(Dollars in millions)*

|                              |         |
|------------------------------|---------|
| Credited Projected Liability | \$2,194 |
| Valuation Assets             | \$2,740 |
| Unfunded Liability           | (\$547) |

Funded Ratio:

|             |             |
|-------------|-------------|
| <b>2003</b> | <b>125%</b> |
| 2002        | 137%        |
| 2001 *      | 154%        |
| 2000 *      | 161%        |
| 1999        | 154%        |
| 1998        | 160%        |
| 1997 *      | 155%        |
| 1996        | 130%        |
| 1995        | 126%        |
| 1994 *      | 124%        |
| 1993        | 127%        |
| 1992        | 128%        |
| 1991        | 154%        |
| 1990        | 153%        |
| 1989 *      | 158%        |
| 1988        | 153%        |
| 1987        | 157%        |
| 1986        | 142%        |

*Note: Totals may not agree due to rounding.*

*\*Assumptions Changed*

## Actuarial Gains/Losses

| <b>Change in Employer and State Contribution Rate by Source</b> |                |
|---|----------------|
| <b>Change in Employer Rate</b>                                  |                |
| <b>2002 Contribution Rate</b>                                   | <b>(2.47%)</b> |
| Laws of 2004  | 0.00%          |
| <b>2002 Adjusted Contribution Rate</b>                          | <b>(2.47%)</b> |
| Economic Gains/Losses   | 2.48%          |
| Demographic Gains/Losses  | 0.00%          |
| Other Gains/Losses  | 0.01%          |
| Total Change  | 2.49%          |
| <b>2003 Preliminary Contribution Rate</b>                       | <b>0.02%</b>   |
| Laws of 2004  | 0.01%          |
| <b>2003 Contribution Rate</b>                                   | <b>0.03%</b>   |

|                                     |              |
|-------------------------------------|--------------|
| <b>Change in Normal Costs</b>       |              |
| <b>2002 Normal Cost</b>             | <b>2.57%</b> |
| Laws of 2004                        | 0.00%        |
| <b>2002 Adjusted Normal Cost</b>    | <b>2.57%</b> |
| Assets                              | 0.39%        |
| Salaries                            | (0.15%)      |
| Growth                              | 0.13%        |
| Economic Gains/Losses               | 0.37%        |
| Termination/Return to Work          | (0.02%)      |
| Retirement                          | 0.01%        |
| Demographic Gains/Losses            | (0.01%)      |
| Other Gains/Losses                  | (0.06%)      |
| Total Change                        | 0.30%        |
| <b>2003 Preliminary Normal Cost</b> | <b>2.87%</b> |
| Laws of 2004                        | 0.01%        |
| <b>2003 Normal Cost</b>             | <b>2.88%</b> |

|                                   |                |
|-----------------------------------|----------------|
| <b>Change in UAAL Rate</b>        |                |
| <b>2002 UAAL Rate</b>             | <b>(5.04%)</b> |
| Laws of 2004                      | 0.00%          |
| <b>2002 Adjusted UAAL Rate</b>    | <b>(5.04%)</b> |
| Assets                            | 2.60%          |
| Salaries                          | (0.11%)        |
| Growth                            | 0.00%          |
| Inflation (CPI)                   | (0.38%)        |
| Economic Gains/Losses             | 2.11%          |
| Termination/Return to Work        | 0.00%          |
| Retirement                        | 0.01%          |
| Demographic Gains/Losses          | 0.01%          |
| Other Gains/Losses                | 0.07%          |
| Total Change                      | 2.19%          |
| <b>2003 Preliminary UAAL Rate</b> | <b>(2.85%)</b> |
| Laws of 2004                      | 0.00%          |
| <b>2003 UAAL Rate</b>             | <b>(2.85%)</b> |

*The LEOFF contribution rate is the State's portion for Plan 2  
(20% of the Normal Cost) plus the UAAL rate for Plan 1*

## Effect of Plan, Assumption and Method Changes

In addition to experience gains or losses, significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates.

### Plan changes:

- HB 2418 (Chapter 4, Laws of 2004)
- HB 2419 (Chapter 5, Laws of 2004)

### Assumption Changes:

None.

### Method Changes:

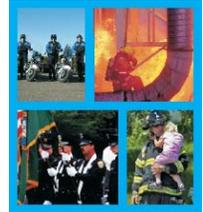
Asset valuation method (See Appendix).

The table below shows the combined effect of all 2004 pension legislation.

| <b>Effect of Plan, Assumption and Method Changes</b> |              |
|--|--------------|
| <b>*Before Changes</b>                               |              |
| Present Value of Fully Projected Benefits            | \$4,379      |
| Present Value of Credited Projected Benefits         | 2,192        |
| Actuarial Value of Assets                            | 2,740        |
| Unfunded Liability                                   | (549)        |
| <b>Employer Contribution Rate</b>                    | <b>2.87%</b> |
| <br><b>After Changes</b>                             |              |
| Present Value of Fully Projected Benefits            | \$4,383      |
| Present Value of Credited Projected Benefits         | 2,194        |
| Actuarial Value of Assets                            | 2,740        |
| Unfunded Liability                                   | (547)        |
| <b>Employer Contribution Rate</b>                    | <b>2.88%</b> |
| <b>Increase/(Decrease) in Rate</b>                   | <b>0.01%</b> |
| <i>*After actuarial gains and losses</i>             |              |

# Participant Data

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## Overview of System Membership

**LEOFF - Law Enforcement and Fire  
Fighter's Retirement System**  
*Chapter 41.26 RCW*

Fire fighters; law enforcement officers including sheriffs; university, port, city police officers and enforcement officers with the Department of Fish and Wildlife.

| <b>Active Membership By Employer</b> |               |
|--------------------------------------|---------------|
| State Agencies                       | 86            |
| Higher Education                     | 106           |
| Community Colleges                   | 0             |
| K-12                                 | 0             |
| Counties                             | 2,657         |
| County Sub Divisions                 | 28            |
| First Class Cities                   | 4,542         |
| Other Cities                         | 4,642         |
| Ports                                | 174           |
| Education Service District           | 0             |
| Fire Districts                       | 2,325         |
| Public Utility District              | 0             |
| Water Districts                      | 0             |
| Energy Northwest                     | 0             |
| Unions                               | 0             |
| <b>TOTAL</b>                         | <b>14,560</b> |

Section 3  
**Participant Data**

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The table below summarizes participant data changes from last year's valuation to the current year's valuation. The participant data is divided into two main categories: (1) Actives and (2) Annuitants (receiving a pension or annuity payment). The "+" symbol indicates new participants entering the system or actives and new beneficiaries entering the annuitant status; whereas the "-" symbol indicates participants that have left either active or annuitant status.

| <b>Reconciliation of Participant Data</b> |               |
|---|---------------|
| 2002 Actives                              | 14,011        |
| Transfers                                 | 0             |
| Hires/Rehires (+)                         | 964           |
| New Retirees (-)                          | (55)          |
| Deaths (-)                                | (11)          |
| Terminations (-)                          | (349)         |
| <b>2003 Actives</b>                       | <b>14,560</b> |
| 2002 Annuitants                           | 244           |
| New Retirees (+)                          | 74            |
| Annuitant Deaths (-)                      | (3)           |
| New Survivors (+)                         | 3             |
| Other (-)                                 | (2)           |
| <b>2003 Annuitants</b>                    | <b>316</b>    |
| <br>                                      |               |
| <b>Ratio Actives to Annuitants</b>        | <b>46.08</b>  |

## Summary of Plan Participants

| Summary of Plan Participants                  |          |          |
|---|----------|----------|
|   | 2003     | 2002     |
| <b>Active Members</b>                         |          |          |
| Number  | 14,560   | 14,011   |
| Total Salaries (millions)                     | \$967    | \$902    |
| Average Age                                   | 39.5     | 39.0     |
| Average Service                               | 10.7     | 10.4     |
| Average Salary                                | \$66,388 | \$64,347 |
| <b>Terminated Members</b>                     |          |          |
| Number Vested                                 | 439      | 376      |
| Number "Non-Vested"                           | 1,186    | 1,137    |
| <b>Retirees</b>                               |          |          |
| Number of Retirees (All)                      | 316      | 244      |
| Average Monthly Benefit, All Retirees         | \$1,341  | \$1,188  |
| Number of New "Service Retirees"              | 66       | 45       |
| Average Monthly Benefit, New Service Retirees | \$1,720  | \$1,583  |

Section 3  
**Participant Data**

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# Appendices

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## Actuarial Assumptions and Methods

### Actuarial Cost Methods

The Aggregate Cost Method was used to determine the normal cost and the actuarial accrued liability for retirement, termination and ancillary benefits. Under this method, the unfunded actuarial present value of fully projected benefits is amortized over the future payroll of the active group. The entire contribution is considered normal cost and no unfunded actuarial accrued liability exists.

### Asset Valuation Method

The actuarial value of assets is calculated under an adjusted market value method by starting with the market value of assets. For subsequent years the actuarial value of assets is determined by adjusting the market value of assets to reflect the difference between the actual investment return and the expected investment return during each of the last 8 years or, if fewer, the completed years since adoption, at the following rates per year:

| Annual Gain/Loss |                  |                    |
|------------------|------------------|--------------------|
| Rate of Return   | Smoothing Period | Annual Recognition |
| 15% and up       | 8 years          | 12.50%             |
| 14-15%           | 7 years          | 14.29%             |
| 13-14%           | 6 years          | 16.67%             |
| 12-13%           | 5 years          | 20.00%             |
| 11-12%           | 4 years          | 25.00%             |
| 10-11%           | 3 years          | 33.33%             |
| 9-10%            | 2 years          | 50.00%             |
| 7-9%             | 1 year           | 100.00%            |
| 6-7%             | 2 years          | 50.00%             |
| 5-6%             | 3 years          | 33.33%             |
| 4-5%             | 4 years          | 25.00%             |
| 3-4%             | 5 years          | 20.00%             |
| 2-3%             | 6 years          | 16.67%             |
| 1-2%             | 7 years          | 14.29%             |
| 1% and lower     | 8 years          | 12.50%             |

Additionally, the actuarial value of assets may not exceed 130% nor drop below 70% of the market value of assets.

**Changes in Assumptions and Methods since Last Valuation**

The method for calculating the actuarial value of assets has changed. A 30% market value corridor was added to the asset valuation method.

**Economic Assumptions**

| <b>Economic Assumptions</b>                              |           |
|--|-----------|
| Annual Growth in Membership                              | 1.25%     |
| Interest on Member Contributions <sup>1</sup>            | 5.50%     |
| Return on Investment Earnings <sup>2</sup>               | 8.00%     |
| Inflation <sup>3</sup>                                   | 3.50%     |
| General Salary Increases (due to inflation) <sup>4</sup> | 4.50%     |
| <br>Annual COLA <sup>5</sup>                             | <br>3.00% |

<sup>1</sup>Annual rate, compounded quarterly

<sup>2</sup>Annual rate, compounded annually

<sup>3</sup>Based on the CPI: Urban Wage Earners & Clerical Workers,  
 Seattle-Tacoma-Bremerton, WA - All Items

<sup>4</sup>Excludes longevity, merit or step increases that usually apply to  
 members in the early part of their careers

<sup>5</sup>Based on the CPI (3% maximum)

**Demographic Assumptions**

| Age | RP-2000 Mortality Rates |          | Disabled Mortality |          |          |          | Active, Annuitant Mortality |          |          |          |          |          |
|-----|-------------------------|----------|--------------------|----------|----------|----------|-----------------------------|----------|----------|----------|----------|----------|
|     | Combined Healthy Table  |          | LEOFF 2            |          | LEOFF 1  |          | LEOFF 2                     |          | LEOFF 1  |          | WSP      |          |
|     | Male                    | Female   | Male               | Female   | Male     | Female   | Male                        | Female   | Male     | Female   | Male     | Female   |
| 20  | 0.000345                | 0.000191 | 2                  | 2        | 2        | 2        | 2                           | 2        | 0        | 0        | 0        | 0        |
| 21  | 0.000357                | 0.000192 | 2                  | 2        | 2        | 2        | 2                           | 2        | 0        | 0        | 0        | 0        |
| 22  | 0.000366                | 0.000194 | 2                  | 2        | 2        | 2        | 2                           | 2        | 0        | 0        | 0        | 0        |
| 23  | 0.000373                | 0.000197 | 2                  | 2        | 2        | 2        | 2                           | 2        | 0        | 0        | 0        | 0        |
| 24  | 0.000376                | 0.000201 | 2                  | 2        | 2        | 2        | 2                           | 2        | 0        | 0        | 0        | 0        |
| 25  | 0.000376                | 0.000207 | 0.005              | 0.005    | 0.005    | 0.005    | 0.005                       | 0.005    | 0.005    | 0.005    | 0.005    | 0.005    |
| 26  | 0.000378                | 0.000214 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 27  | 0.000382                | 0.000223 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 28  | 0.000393                | 0.000235 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 29  | 0.000412                | 0.000248 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 30  | 0.000444                | 0.000264 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 31  | 0.000499                | 0.000307 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 32  | 0.000562                | 0.000350 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 33  | 0.000631                | 0.000394 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 34  | 0.000702                | 0.000435 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 35  | 0.000773                | 0.000475 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 36  | 0.000841                | 0.000514 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 37  | 0.000904                | 0.000554 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 38  | 0.000964                | 0.000598 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 39  | 0.001021                | 0.000648 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 40  | 0.001079                | 0.000706 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 41  | 0.001142                | 0.000774 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 42  | 0.001215                | 0.000852 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 43  | 0.001299                | 0.000937 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |
| 44  | 0.001397                | 0.001029 | 0.005000           | 0.005000 | 0.005000 | 0.005000 | 0.005000                    | 0.005000 | 0.005000 | 0.005000 | 0.005000 | 0.005000 |



| RP-2000 Mortality Rates<br>(Continued) |          |          | Disabled Mortality<br>(Continued) |          |          |          |          |          | Active, Annuitant Mortality<br>(Continued) |          |          |          |          |          |     |
|--|----------|----------|-----------------------------------|----------|----------|----------|----------|----------|--|----------|----------|----------|----------|----------|-----|
|  |          |          | LEOFF 2                           |          | LEOFF 1  |          | WSP      |          | LEOFF 2                                    |          | LEOFF 1  |          | WSP      |          |     |
| Age                                    | Male     | Female   | Male                              | Female   | Male     | Female   | Male     | Female   | Male                                       | Female   | Male     | Female   | Male     | Female   | Age |
| 70                                     | 0.022206 | 0.016742 | 0.027281                          | 0.020665 | 0.027281 | 0.020665 | 0.027281 | 0.020665 | 0.022206                                   | 0.016742 | 0.022206 | 0.016742 | 0.022206 | 0.016742 | 70  |
| 71                                     | 0.024570 | 0.018579 | 0.030387                          | 0.022970 | 0.030387 | 0.022970 | 0.030387 | 0.022970 | 0.024570                                   | 0.018579 | 0.024570 | 0.018579 | 0.024570 | 0.018579 | 71  |
| 72                                     | 0.027281 | 0.020665 | 0.033900                          | 0.025458 | 0.033900 | 0.025458 | 0.033900 | 0.025458 | 0.027281                                   | 0.020665 | 0.027281 | 0.020665 | 0.027281 | 0.020665 | 72  |
| 73                                     | 0.030387 | 0.022970 | 0.037834                          | 0.028106 | 0.037834 | 0.028106 | 0.037834 | 0.028106 | 0.030387                                   | 0.022970 | 0.030387 | 0.022970 | 0.030387 | 0.022970 | 73  |
| 74                                     | 0.033900 | 0.025458 | 0.042169                          | 0.030966 | 0.042169 | 0.030966 | 0.042169 | 0.030966 | 0.033900                                   | 0.025458 | 0.033900 | 0.025458 | 0.033900 | 0.025458 | 74  |
| 75                                     | 0.037834 | 0.028106 | 0.046906                          | 0.034105 | 0.046906 | 0.034105 | 0.046906 | 0.034105 | 0.037834                                   | 0.028106 | 0.037834 | 0.028106 | 0.037834 | 0.028106 | 75  |
| 76                                     | 0.042169 | 0.030966 | 0.052123                          | 0.037595 | 0.052123 | 0.037595 | 0.052123 | 0.037595 | 0.042169                                   | 0.030966 | 0.042169 | 0.030966 | 0.042169 | 0.030966 | 76  |
| 77                                     | 0.046906 | 0.034105 | 0.057927                          | 0.041506 | 0.057927 | 0.041506 | 0.057927 | 0.041506 | 0.046906                                   | 0.034105 | 0.046906 | 0.034105 | 0.046906 | 0.034105 | 77  |
| 78                                     | 0.052123 | 0.037595 | 0.064368                          | 0.045879 | 0.064368 | 0.045879 | 0.064368 | 0.045879 | 0.052123                                   | 0.037595 | 0.052123 | 0.037595 | 0.052123 | 0.037595 | 78  |
| 79                                     | 0.057927 | 0.041506 | 0.072041                          | 0.050780 | 0.072041 | 0.050780 | 0.072041 | 0.050780 | 0.057927                                   | 0.041506 | 0.057927 | 0.041506 | 0.057927 | 0.041506 | 79  |
| 80                                     | 0.064368 | 0.045879 | 0.080486                          | 0.056294 | 0.080486 | 0.056294 | 0.080486 | 0.056294 | 0.064368                                   | 0.045879 | 0.064368 | 0.045879 | 0.064368 | 0.045879 | 80  |
| 81                                     | 0.072041 | 0.050780 | 0.089718                          | 0.062506 | 0.089718 | 0.062506 | 0.089718 | 0.062506 | 0.072041                                   | 0.050780 | 0.072041 | 0.050780 | 0.072041 | 0.050780 | 81  |
| 82                                     | 0.080486 | 0.056294 | 0.099779                          | 0.069517 | 0.099779 | 0.069517 | 0.099779 | 0.069517 | 0.080486                                   | 0.056294 | 0.080486 | 0.056294 | 0.080486 | 0.056294 | 82  |
| 83                                     | 0.089718 | 0.062506 | 0.110757                          | 0.077446 | 0.110757 | 0.077446 | 0.110757 | 0.077446 | 0.089718                                   | 0.062506 | 0.089718 | 0.062506 | 0.089718 | 0.062506 | 83  |
| 84                                     | 0.099779 | 0.069517 | 0.122797                          | 0.086376 | 0.122797 | 0.086376 | 0.122797 | 0.086376 | 0.099779                                   | 0.069517 | 0.099779 | 0.069517 | 0.099779 | 0.069517 | 84  |
| 85                                     | 0.110757 | 0.077446 | 0.136043                          | 0.096337 | 0.136043 | 0.096337 | 0.136043 | 0.096337 | 0.110757                                   | 0.077446 | 0.110757 | 0.077446 | 0.110757 | 0.077446 | 85  |
| 86                                     | 0.122797 | 0.086376 | 0.150590                          | 0.107303 | 0.150590 | 0.107303 | 0.150590 | 0.107303 | 0.122797                                   | 0.086376 | 0.122797 | 0.086376 | 0.122797 | 0.086376 | 86  |
| 87                                     | 0.136043 | 0.096337 | 0.166420                          | 0.119154 | 0.166420 | 0.119154 | 0.166420 | 0.119154 | 0.136043                                   | 0.096337 | 0.136043 | 0.096337 | 0.136043 | 0.096337 | 87  |
| 88                                     | 0.150590 | 0.107303 | 0.183408                          | 0.131682 | 0.183408 | 0.131682 | 0.183408 | 0.131682 | 0.150590                                   | 0.107303 | 0.150590 | 0.107303 | 0.150590 | 0.107303 | 88  |
| 89                                     | 0.166420 | 0.119154 | 0.199769                          | 0.144604 | 0.199769 | 0.144604 | 0.199769 | 0.144604 | 0.166420                                   | 0.119154 | 0.166420 | 0.119154 | 0.166420 | 0.119154 | 89  |
| 90                                     | 0.183408 | 0.131682 | 0.216605                          | 0.157618 | 0.216605 | 0.157618 | 0.216605 | 0.157618 | 0.183408                                   | 0.131682 | 0.183408 | 0.131682 | 0.183408 | 0.131682 | 90  |
| 91                                     | 0.199769 | 0.144604 | 0.233662                          | 0.170433 | 0.233662 | 0.170433 | 0.233662 | 0.170433 | 0.199769                                   | 0.144604 | 0.199769 | 0.144604 | 0.199769 | 0.144604 | 91  |
| 92                                     | 0.216605 | 0.157618 | 0.250693                          | 0.182799 | 0.250693 | 0.182799 | 0.250693 | 0.182799 | 0.216605                                   | 0.157618 | 0.216605 | 0.157618 | 0.216605 | 0.157618 | 92  |
| 93                                     | 0.233662 | 0.170433 | 0.267491                          | 0.194509 | 0.267491 | 0.194509 | 0.267491 | 0.194509 | 0.233662                                   | 0.170433 | 0.233662 | 0.170433 | 0.233662 | 0.170433 | 93  |
| 94                                     | 0.250693 | 0.182799 | 0.283905                          | 0.205379 | 0.283905 | 0.205379 | 0.283905 | 0.205379 | 0.250693                                   | 0.182799 | 0.250693 | 0.182799 | 0.250693 | 0.182799 | 94  |

Combined Healthy Table  
Age Offset (Years)

->

Minimum

Probability -->

| RP-2000 Mortality Rates<br>(Continued) |          |          | Disabled Mortality<br>(Continued) |          |          |          |          |          | Active, Annuitant Mortality<br>(Continued) |          |          |          |          |          |
|--|----------|----------|-----------------------------------|----------|----------|----------|----------|----------|--|----------|----------|----------|----------|----------|
| Combined Healthy Table                 |          |          | LEOFF 2                           |          | LEOFF 1  |          | WSP      |          | LEOFF 2                                    |          | LEOFF 1  |          | WSP      |          |
| Age                                    | Male     | Female   | Male                              | Female   | Male     | Female   | Male     | Female   | Male                                       | Female   | Male     | Female   | Male     | Female   |
| 95                                     | 0.267491 | 0.194509 | 0.299852                          | 0.215240 | 0.299852 | 0.215240 | 0.299852 | 0.215240 | 0.267491                                   | 0.194509 | 0.267491 | 0.194509 | 0.267491 | 0.194509 |
| 96                                     | 0.283905 | 0.205379 | 0.315296                          | 0.223947 | 0.315296 | 0.223947 | 0.315296 | 0.223947 | 0.283905                                   | 0.205379 | 0.283905 | 0.205379 | 0.283905 | 0.205379 |
| 97                                     | 0.299852 | 0.215240 | 0.330207                          | 0.231387 | 0.330207 | 0.231387 | 0.330207 | 0.231387 | 0.299852                                   | 0.215240 | 0.299852 | 0.215240 | 0.299852 | 0.215240 |
| 98                                     | 0.315296 | 0.223947 | 0.344556                          | 0.237467 | 0.344556 | 0.237467 | 0.344556 | 0.237467 | 0.315296                                   | 0.223947 | 0.315296 | 0.223947 | 0.315296 | 0.223947 |
| 99                                     | 0.330207 | 0.231387 | 0.358628                          | 0.244834 | 0.358628 | 0.244834 | 0.358628 | 0.244834 | 0.330207                                   | 0.231387 | 0.330207 | 0.231387 | 0.330207 | 0.231387 |
| 100                                    | 0.344556 | 0.237467 | 0.371685                          | 0.254498 | 0.371685 | 0.254498 | 0.371685 | 0.254498 | 0.344556                                   | 0.237467 | 0.344556 | 0.237467 | 0.344556 | 0.237467 |
| 101                                    | 0.358628 | 0.244834 | 0.383040                          | 0.266044 | 0.383040 | 0.266044 | 0.383040 | 0.266044 | 0.358628                                   | 0.244834 | 0.358628 | 0.244834 | 0.358628 | 0.244834 |
| 102                                    | 0.371685 | 0.254498 | 0.392003                          | 0.279055 | 0.392003 | 0.279055 | 0.392003 | 0.279055 | 0.371685                                   | 0.254498 | 0.371685 | 0.254498 | 0.371685 | 0.254498 |
| 103                                    | 0.383040 | 0.266044 | 0.397886                          | 0.293116 | 0.397886 | 0.293116 | 0.397886 | 0.293116 | 0.383040                                   | 0.266044 | 0.383040 | 0.266044 | 0.383040 | 0.266044 |
| 104                                    | 0.392003 | 0.279055 | 0.400000                          | 0.307811 | 0.400000 | 0.307811 | 0.400000 | 0.307811 | 0.392003                                   | 0.279055 | 0.392003 | 0.279055 | 0.392003 | 0.279055 |
| 105                                    | 0.397886 | 0.293116 | 0.400000                          | 0.322725 | 0.400000 | 0.322725 | 0.400000 | 0.322725 | 0.397886                                   | 0.293116 | 0.397886 | 0.293116 | 0.397886 | 0.293116 |
| 106                                    | 0.400000 | 0.307811 | 0.400000                          | 0.337441 | 0.400000 | 0.337441 | 0.400000 | 0.337441 | 0.400000                                   | 0.307811 | 0.400000 | 0.307811 | 0.400000 | 0.307811 |
| 107                                    | 0.400000 | 0.322725 | 0.400000                          | 0.351544 | 0.400000 | 0.351544 | 0.400000 | 0.351544 | 0.400000                                   | 0.322725 | 0.400000 | 0.322725 | 0.400000 | 0.322725 |
| 108                                    | 0.400000 | 0.337441 | 0.400000                          | 0.364617 | 0.400000 | 0.364617 | 0.400000 | 0.364617 | 0.400000                                   | 0.337441 | 0.400000 | 0.337441 | 0.400000 | 0.337441 |
| 109                                    | 0.400000 | 0.351544 | 0.400000                          | 0.376246 | 0.400000 | 0.376246 | 0.400000 | 0.376246 | 0.400000                                   | 0.351544 | 0.400000 | 0.351544 | 0.400000 | 0.351544 |
| 110                                    | 0.400000 | 0.364617 | 1.000000                          | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000                                   | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 |

Section 4  
Appendices

| Age | Service Retirement |               |               | Disablement   |               |               | Ratio of Survivors Selecting Annuities* |               |               | Age |
|-----|--------------------|---------------|---------------|---------------|---------------|---------------|---|---------------|---------------|-----|
|     | LEOFF 2            | LEOFF 1       | WSP           | LEOFF 2       | LEOFF 1       | WSP           | LEOFF 2                                 | LEOFF 1       | WSP           |     |
|     | Male & Female      | Male & Female | Male & Female | Male & Female | Male & Female | Male & Female | Male & Female                           | Male & Female | Male & Female |     |
| 20  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 20  |
| 21  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 21  |
| 22  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 22  |
| 23  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 23  |
| 24  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 24  |
| 25  | 0.00               | 0.00          | 0.00          | 0.000022      | 0.001000      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 25  |
| 26  | 0.00               | 0.00          | 0.00          | 0.000024      | 0.002397      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 26  |
| 27  | 0.00               | 0.00          | 0.00          | 0.000026      | 0.003793      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 27  |
| 28  | 0.00               | 0.00          | 0.00          | 0.000028      | 0.005187      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 28  |
| 29  | 0.00               | 0.00          | 0.00          | 0.000031      | 0.006578      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 29  |
| 30  | 0.00               | 0.00          | 0.00          | 0.000033      | 0.007968      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 30  |
| 31  | 0.00               | 0.00          | 0.00          | 0.000035      | 0.009356      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 31  |
| 32  | 0.00               | 0.00          | 0.00          | 0.000037      | 0.010742      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 32  |
| 33  | 0.00               | 0.00          | 0.00          | 0.000039      | 0.012126      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 33  |
| 34  | 0.00               | 0.00          | 0.00          | 0.000042      | 0.013508      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 34  |
| 35  | 0.00               | 0.00          | 0.00          | 0.000044      | 0.014888      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 35  |
| 36  | 0.00               | 0.00          | 0.00          | 0.000050      | 0.016267      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 36  |
| 37  | 0.00               | 0.00          | 0.00          | 0.000057      | 0.019033      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 37  |
| 38  | 0.00               | 0.00          | 0.00          | 0.000066      | 0.020514      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 38  |
| 39  | 0.00               | 0.00          | 0.00          | 0.000077      | 0.021994      | 0.001000      | 0.00                                    | 0.00          | 0.00          | 39  |
| 40  | 0.00               | 0.00          | 0.00          | 0.000088      | 0.023471      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 40  |
| 41  | 0.00               | 0.00          | 0.00          | 0.000098      | 0.024946      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 41  |
| 42  | 0.00               | 0.00          | 0.00          | 0.000109      | 0.026419      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 42  |
| 43  | 0.00               | 0.00          | 0.00          | 0.000123      | 0.027889      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 43  |
| 44  | 0.00               | 0.00          | 0.00          | 0.000138      | 0.036042      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 44  |
| 45  | 0.00               | 0.00          | 0.31          | 0.000153      | 0.042372      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 45  |
| 46  | 0.00               | 0.00          | 0.31          | 0.000197      | 0.048661      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 46  |
| 47  | 0.00               | 0.00          | 0.31          | 0.000256      | 0.054909      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 47  |
| 48  | 0.00               | 0.00          | 0.31          | 0.000328      | 0.061118      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 48  |
| 49  | 0.00               | 0.00          | 0.31          | 0.000424      | 0.067287      | 0.001000      | 0.00                                    | 0.60          | 0.60          | 49  |
| 50  | 0.10               | 0.09          | 0.31          | 0.000547      | 0.073417      | 0.001000      | 0.25                                    | 0.60          | 0.60          | 50  |

\*Refers to members leaving survivor who selects annuity payments (rather than a lump sum payment) upon active or terminated vested member's death.

Section 4  
Appendices

| Age | Service Retirement<br><i>(Continued)</i> |               |               | Disablement<br><i>(Continued)</i> |               |               | Ratio of Survivors Selecting Annuities*<br><i>(Continued)</i> |               |               | Age |
|-----|--|---------------|---------------|-----------------------------------|---------------|---------------|---|---------------|---------------|-----|
|     | LEOFF 2                                  | LEOFF 1       | WSP           | LEOFF 2                           | LEOFF 1       | WSP           | LEOFF 2   | LEOFF 1       | WSP           |     |
|     | Male & Female                            | Male & Female | Male & Female | Male & Female                     | Male & Female | Male & Female | Male & Female   | Male & Female | Male & Female |     |
| 51  | 0.10                                     | 0.07          | 0.23          | 0.000628                          | 0.079508      | 0.001000      | 0.25  | 0.60          | 0.60          | 51  |
| 52  | 0.10                                     | 0.08          | 0.23          | 0.000722                          | 0.085561      | 0.001000      | 0.25  | 0.60          | 0.60          | 52  |
| 53  | 0.16                                     | 0.08          | 0.23          | 0.000851                          | 0.091576      | 0.001000      | 0.25  | 0.60          | 0.60          | 53  |
| 54  | 0.19                                     | 0.10          | 0.23          | 0.000951                          | 0.097553      | 0.001000      | 0.25  | 0.60          | 0.60          | 54  |
| 55  | 0.24                                     | 0.16          | 0.23          | 0.000951                          | 0.103493      | 0.001000      | 0.25  | 0.60          | 0.60          | 55  |
| 56  | 0.25                                     | 0.16          | 0.28          | 0.000951                          | 0.109395      | 0.001000      | 0.25  | 0.60          | 0.60          | 56  |
| 57  | 0.25                                     | 0.16          | 0.28          | 0.000951                          | 0.115262      | 0.001000      | 0.25  | 0.60          | 0.60          | 57  |
| 58  | 0.33                                     | 0.23          | 0.28          | 0.000951                          | 0.121663      | 0.001000      | 0.25  | 0.60          | 0.60          | 58  |
| 59  | 0.33                                     | 0.23          | 0.28          | 0.000951                          | 0.121663      | 0.001000      | 0.25  | 0.60          | 0.60          | 59  |
| 60  | 0.33                                     | 0.23          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 60  |
| 61  | 0.37                                     | 0.28          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 61  |
| 62  | 0.37                                     | 0.28          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 62  |
| 63  | 0.37                                     | 0.28          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 63  |
| 64  | 0.48                                     | 0.40          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 64  |
| 65  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 65  |
| 66  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 66  |
| 67  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 67  |
| 68  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 68  |
| 69  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 69  |
| 70  | 1.00                                     | 1.00          | 1.00          | 0.000951                          | 0.121663      | 0.001000      | 0.50  | 0.60          | 0.60          | 70  |
| 71  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 71  |
| 72  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 72  |
| 73  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 73  |
| 74  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 74  |
| 75  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 75  |
| 76  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 76  |
| 77  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 77  |
| 78  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 78  |
| 79  | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 79  |
| 80+ | N/A                                      | N/A           | N/A           | N/A                               | N/A           | N/A           | 0.50  | 0.60          | 0.60          | 80+ |

\*Refers to members leaving survivor who selects annuity payments (rather than a lump sum payment) upon active or terminated vested member's death.

**Age and Service Distribution of Active Members**  
 (Number of Actives and Average Salary)

**LEOFF Plan 2:**  
**Attained Age**

| Attained Age         | Attained Years of Service |          |          |          |          |            |          |          |          |          |       |       |       | Total |           |
|----------------------|---------------------------|----------|----------|----------|----------|------------|----------|----------|----------|----------|-------|-------|-------|-------|-----------|
|                      | 0                         | 1        | 2        | 3        | 4        | 5          | 9-10     | 10-14    | 15-19    | 20-24    | 25-29 | 30-34 | 35-39 |       | 40 & Over |
| <b>Under 25</b>      | 32                        | 76       | 44       | 21       | 5        | 0          | 0        | 0        | 0        | 0        | 0     | 0     | 0     | 0     | 178       |
|                      | \$40,643                  | \$44,465 | \$49,080 | \$52,994 | \$46,465 | \$0        | \$0      | \$0      | \$0      | \$0      | \$0   | \$0   | \$0   | \$0   | \$45,981  |
| <b>25-29</b>         | 123                       | 243      | 286      | 259      | 211      | 283        | 1        | 0        | 0        | 0        | 0     | 0     | 0     | 0     | 1,406     |
|                      | \$41,692                  | \$45,069 | \$51,189 | \$54,716 | \$60,267 | \$62,307   | *        | \$0      | \$0      | \$0      | \$0   | \$0   | \$0   | \$0   | \$53,566  |
| <b>30-34</b>         | 109                       | 207      | 258      | 235      | 308      | 1,395      | 321      | 1        | 0        | 0        | 0     | 0     | 0     | 0     | 2,834     |
|                      | \$44,104                  | \$47,355 | \$51,006 | \$56,298 | \$59,828 | \$64,302   | \$69,440 | *        | \$0      | \$0      | \$0   | \$0   | \$0   | \$0   | \$60,511  |
| <b>35-39</b>         | 58                        | 84       | 143      | 113      | 170      | 1,043      | 1,221    | 282      | 1        | 0        | 0     | 0     | 0     | 0     | 3,115     |
|                      | \$46,936                  | \$52,112 | \$51,868 | \$58,644 | \$60,941 | \$65,747   | \$69,853 | \$74,261 | *        | \$0      | \$0   | \$0   | \$0   | \$0   | \$66,262  |
| <b>40-44</b>         | 33                        | 50       | 63       | 67       | 77       | 469        | 906      | 889      | 284      | 6        | 0     | 0     | 0     | 0     | 2,844     |
|                      | \$49,171                  | \$54,079 | \$52,266 | \$56,916 | \$58,011 | \$64,240   | \$70,794 | \$74,414 | \$79,162 | \$81,229 | \$0   | \$0   | \$0   | \$0   | \$70,074  |
| <b>45-49</b>         | 24                        | 29       | 22       | 25       | 30       | 230        | 431      | 595      | 839      | 158      | 0     | 0     | 0     | 0     | 2,383     |
|                      | \$53,153                  | \$63,679 | \$52,427 | \$61,801 | \$56,289 | \$64,503   | \$69,557 | \$73,851 | \$79,574 | \$78,567 | \$0   | \$0   | \$0   | \$0   | \$73,622  |
| <b>50-54</b>         | 17                        | 22       | 10       | 17       | 15       | 107        | 149      | 269      | 559      | 179      | 0     | 0     | 0     | 0     | 1,344     |
|                      | \$54,063                  | \$74,806 | \$63,250 | \$61,213 | \$57,925 | \$63,453   | \$69,046 | \$72,629 | \$76,469 | \$78,069 | \$0   | \$0   | \$0   | \$0   | \$73,245  |
| <b>55-59</b>         | 5                         | 6        | 9        | 2        | 8        | 35         | 49       | 77       | 135      | 37       | 0     | 0     | 0     | 0     | 363       |
|                      | \$48,795                  | \$55,524 | \$79,143 | \$67,824 | \$64,472 | \$66,319   | \$67,388 | \$70,739 | \$73,976 | \$74,406 | \$0   | \$0   | \$0   | \$0   | \$70,938  |
| <b>60-64</b>         | 0                         | 4        | 2        | 0        | 0        | 15         | 16       | 22       | 22       | 3        | 0     | 0     | 0     | 0     | 84        |
|                      | \$0                       | \$38,354 | \$56,396 | \$0      | \$0      | \$66,501   | \$57,305 | \$72,793 | \$73,799 | \$74,047 | \$0   | \$0   | \$0   | \$0   | \$66,997  |
| <b>65-69</b>         | 0                         | 0        | 0        | 0        | 0        | 1          | 3        | 5        | 0        | 0        | 0     | 0     | 0     | 0     | 9         |
|                      | \$0                       | \$0      | \$0      | \$0      | \$0      | * \$84,787 | \$63,474 | \$0      | \$0      | \$0      | \$0   | \$0   | \$0   | \$0   | \$74,156  |
| <b>70 &amp; Over</b> | 0                         | 0        | 0        | 0        | 0        | 0          | 0        | 0        | 0        | 0        | 0     | 0     | 0     | 0     | 0         |
|                      | \$0                       | \$0      | \$0      | \$0      | \$0      | \$0        | \$0      | \$0      | \$0      | \$0      | \$0   | \$0   | \$0   | \$0   | \$0       |
| <b>Total</b>         | 401                       | 721      | 837      | 739      | 824      | 3,578      | 3,097    | 2,140    | 1,840    | 383      | 0     | 0     | 0     | 0     | 14,560    |
|                      | \$44,937                  | \$48,813 | \$51,709 | \$56,395 | \$59,800 | \$64,582   | \$69,917 | \$73,837 | \$78,096 | \$77,939 | \$0   | \$0   | \$0   | \$0   | \$66,388  |

Average: Age 39.5 Number of Participants: Vested 10,557 Males 13,360 Early Retirement Eligible: 540  
 Service 10.7 Not Vested 4,003 Females 1,200 Normal Retirement Eligible: 754

\*Salary omitted for privacy reasons

\*Numbers of participants eligible for early and normal retirement are estimates only

| Service Years | Termination<br><i>(Continued)</i> |               |               |               | Percent Vested*<br><i>(Continued)</i> |               |               |               | Salary Scale<br><i>(Continued)</i> |              |            |              |       |       |
|---------------|-----------------------------------|---------------|---------------|---------------|---------------------------------------|---------------|---------------|---------------|------------------------------------|--------------|------------|--------------|-------|-------|
|               | LEOFF 2                           |               | WSP           |               | LEOFF 2                               |               | WSP           |               | LEOFF 2                            |              | WSP        |              |       |       |
|               | Male & Female                     | Male & Female | Male & Female | Male & Female | Male & Female                         | Male & Female | Male & Female | Male & Female | % Increase                         | Salary Ratio | % Increase | Salary Ratio |       |       |
| 25            | 0.0070                            | 0.0070        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 26            | 0.0070                            | 0.0070        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 27            | 0.0070                            | 0.0070        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 28            | 0.0070                            | 0.0070        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 29            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 30            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 31            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 32            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 33            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 34            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 35            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 36            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 37            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 38            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 39            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 40            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 41            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 42            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 43            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 44            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 45            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 46            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 47            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 48            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 49            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |
| 50            | 0.0000                            | 0.0000        | 0.0000        | 0.0000        | 1.00                                  | N/A           | N/A           | 1.00          | 0.00%                              | 1.000        | 0.00%      | 1.000        | 0.00% | 1.000 |

\*Probability of vesting upon termination

**Early Retirement Reduction Factors**

| <b>Years</b> | <b>LEOFF2, WSP*</b> | <b>Subsidized 3%**</b> |
|--------------|---------------------|------------------------|
| <b>0</b>     | 1.0000              | 1.00                   |
| <b>1</b>     | 0.9200              | 0.97                   |
| <b>2</b>     | 0.8400              | 0.94                   |
| <b>3</b>     | 0.7600              | 0.91                   |
| <b>4</b>     | 0.7100              | 0.88                   |
| <b>5</b>     | 0.6600              | 0.85                   |
| <b>6</b>     | 0.6100              | 0.82                   |
| <b>7</b>     | 0.5600              | 0.79                   |
| <b>8</b>     | 0.5100              | 0.76                   |
| <b>9</b>     | 0.4700              | 0.73                   |
| <b>10</b>    | 0.4300              | 0.70                   |
| <b>11</b>    | 0.3900              | N/A                    |
| <b>12</b>    | 0.3500              | N/A                    |
| <b>13</b>    | 0.3100              | N/A                    |
| <b>14</b>    | 0.2900              | N/A                    |
| <b>15</b>    | 0.2700              | N/A                    |
| <b>16</b>    | 0.2500              | N/A                    |
| <b>17</b>    | 0.2300              | N/A                    |
| <b>18</b>    | 0.2100              | N/A                    |
| <b>19</b>    | 0.2000              | N/A                    |
| <b>20</b>    | 0.1900              | N/A                    |
| <b>21</b>    | 0.1800              | N/A                    |
| <b>22</b>    | 0.1700              | N/A                    |
| <b>23</b>    | 0.1600              | N/A                    |
| <b>24</b>    | 0.1500              | N/A                    |

*Early Retirement Reduction Factors are not applied in LEOFF 1.*

*\*Terminated Vested only.*

*\*\*LEOFF 2 members must be at least age 50 with 20 or more years of service to qualify.*

**Early Retirement Reduction Factors**

*(Continued)*

| Years | LEOFF2, WSP* | Subsidized 3%** |
|-------|--------------|-----------------|
| 25    | 0.1400       | N/A             |
| 26    | 0.1300       | N/A             |
| 27    | 0.1200       | N/A             |
| 28    | 0.1100       | N/A             |
| 29    | 0.1000       | N/A             |
| 30    | 0.1000       | N/A             |
| 31    | 0.1000       | N/A             |
| 32    | 0.1000       | N/A             |
| 33    | 0.1000       | N/A             |
| 34    | 0.1000       | N/A             |
| 35    | 0.1000       | N/A             |
| 36    | 0.1000       | N/A             |
| 37    | 0.1000       | N/A             |
| 38    | 0.1000       | N/A             |
| 39    | 0.1000       | N/A             |
| 40    | 0.1000       | N/A             |
| 41    | 0.1000       | N/A             |
| 42    | 0.1000       | N/A             |
| 43    | 0.1000       | N/A             |
| 44    | 0.1000       | N/A             |
| 45    | 0.1000       | N/A             |
| 46    | 0.1000       | N/A             |
| 47    | 0.1000       | N/A             |
| 48    | 0.1000       | N/A             |
| 49    | 0.1000       | N/A             |

*Early Retirement Reduction Factors are not applied in LEOFF 1.*

*\*Terminated Vested only.*

*\*\*LEOFF 2 members must be at least age 50 with 20 or more years of service to qualify.*

| <b>Portability Load</b> |      |
|-------------------------|------|
| <b>LEOFF 2</b>          | 0.1% |
| <b>LEOFF 1</b>          | N/A  |
| <b>WSP</b>              | 0.0% |

*Reflects portability provisions for each plan*

| <b>Certain and Life Annuities: Years Certain</b> |     |
|--|-----|
| <b>LEOFF 2</b>                                   | 5   |
| <b>LEOFF 1</b>                                   | N/A |
| <b>WSP</b>                                       | N/A |

*The certain period applies to only the "annuity" portion of the benefit, typically 30% of the total benefit*

| <b>Member/Beneficiary Age Difference (In Years)</b> |                    |                      |
|---|--------------------|----------------------|
|   | <b>Male Member</b> | <b>Female Member</b> |
| <b>LEOFF 2</b>                                      | 4                  | (4)                  |
| <b>LEOFF 1</b>                                      | 4                  | (4)                  |
| <b>WSP</b>  | 3                  | (2)                  |

*Age difference is Member age minus Beneficiary age*

## Summary of Plan Provisions

| Summary of Plan Provisions                      |   |
|---|---|
| Effective Date of Plan                          | 10/1/77   |
| Date Closed to New Entrants                     | Open  |
| Statutory Reference                             | Chapter 41.26 RCW   |
| Normal Retirement Eligibility (age/service)     | 53/5  |
| Accrued Benefit Formula                         | 2% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service                        |
| Computation of FAS/AFC                          | Average compensation earnable for the highest 60 consecutive months                                 |
| Credited Service                                | Monthly, based on hours worked each month   |
| Vesting   | 5 years   |
| Vested Benefits Upon Termination                | Refund of employee contributions (x 150% if 10 YOS) plus interest, or deferred retirement allowance |
| Early Retirement Eligibility (age/service)      | 50/20   |
| Early Retirement Reduction Factors              | 3% ERF with 20 YOS  |
| Disability Retirement Benefit                   | Accrued benefit, actuarially reduced (minimum of 10% of AFC if duty-related)                        |
| COLA  | Lesser of CPI* or 3%  |
| Minimum Benefit per Month / YOS                 | n/a   |
| Gain-Sharing Benefit Provisions                 | n/a   |
| Changes in Plan Provisions Since Last Valuation | Full line-of-duty death survivor benefit (C 5 L 04); Duty disability benefit minimum (C 4 L 04)     |
| Benefits not Included in This Valuation         | None  |

\*CPI: *Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton,*  
WA - All Items

## Age/Service Distributions

**Age and Service Distribution of Active Members**  
(Number of Actives and Average Salary)

| LEOFF Plan 2:<br>Attained Age | Attained Years of Service |          |                         |          |          |            |          |                            |          |          |       |            |           | Total    |       |                             |     |
|-------------------------------|---------------------------|----------|-------------------------|----------|----------|------------|----------|----------------------------|----------|----------|-------|------------|-----------|----------|-------|-----------------------------|-----|
|                               | 0                         | 1        | 2                       | 3        | 4        | 5-9        | 10-14    | 15-19                      | 20-24    | 25-29    | 30-34 | 35-39      | 40 & Over |          |       |                             |     |
| <b>Under 25</b>               | 32                        | 76       | 44                      | 21       | 5        | 0          | 0        | 0                          | 0        | 0        | 0     | 0          | 0         | 178      |       |                             |     |
|                               | \$40,643                  | \$44,465 | \$49,080                | \$52,994 | \$46,465 | \$0        | \$0      | \$0                        | \$0      | \$0      | \$0   | \$0        | \$0       | \$45,981 |       |                             |     |
| <b>25-29</b>                  | 123                       | 243      | 286                     | 259      | 211      | 283        | 1        | 0                          | 0        | 0        | 0     | 0          | 0         | 1,406    |       |                             |     |
|                               | \$41,692                  | \$45,069 | \$51,189                | \$54,716 | \$60,267 | \$62,307   | *        | \$0                        | \$0      | \$0      | \$0   | \$0        | \$0       | \$53,566 |       |                             |     |
| <b>30-34</b>                  | 109                       | 207      | 258                     | 235      | 308      | 1,395      | 321      | 1                          | 0        | 0        | 0     | 0          | 0         | 2,834    |       |                             |     |
|                               | \$44,104                  | \$47,355 | \$51,006                | \$56,298 | \$59,828 | \$64,302   | \$69,440 | *                          | \$0      | \$0      | \$0   | \$0        | \$0       | \$60,511 |       |                             |     |
| <b>35-39</b>                  | 58                        | 84       | 143                     | 113      | 170      | 1,043      | 1,221    | 282                        | 1        | 0        | 0     | 0          | 0         | 3,115    |       |                             |     |
|                               | \$46,936                  | \$52,112 | \$51,868                | \$58,644 | \$60,941 | \$65,747   | \$69,853 | \$74,261                   | *        | \$0      | \$0   | \$0        | \$0       | \$66,262 |       |                             |     |
| <b>40-44</b>                  | 33                        | 50       | 63                      | 67       | 77       | 469        | 906      | 889                        | 284      | 6        | 0     | 0          | 0         | 2,844    |       |                             |     |
|                               | \$49,171                  | \$54,079 | \$52,266                | \$56,916 | \$58,011 | \$64,240   | \$70,794 | \$74,414                   | \$79,162 | \$81,229 | \$0   | \$0        | \$0       | \$70,074 |       |                             |     |
| <b>45-49</b>                  | 24                        | 29       | 22                      | 25       | 30       | 230        | 431      | 595                        | 839      | 158      | 0     | 0          | 0         | 2,383    |       |                             |     |
|                               | \$53,153                  | \$63,679 | \$52,427                | \$61,801 | \$56,289 | \$64,503   | \$69,557 | \$73,851                   | \$79,574 | \$78,567 | \$0   | \$0        | \$0       | \$73,622 |       |                             |     |
| <b>50-54</b>                  | 17                        | 22       | 10                      | 17       | 15       | 107        | 149      | 269                        | 559      | 179      | 0     | 0          | 0         | 1,344    |       |                             |     |
|                               | \$54,063                  | \$74,806 | \$63,250                | \$61,213 | \$57,925 | \$63,453   | \$69,046 | \$72,629                   | \$76,469 | \$78,069 | \$0   | \$0        | \$0       | \$73,245 |       |                             |     |
| <b>55-59</b>                  | 5                         | 6        | 9                       | 2        | 8        | 35         | 49       | 77                         | 135      | 37       | 0     | 0          | 0         | 363      |       |                             |     |
|                               | \$48,795                  | \$55,524 | \$79,143                | \$67,824 | \$64,472 | \$66,319   | \$67,388 | \$70,739                   | \$73,976 | \$74,406 | \$0   | \$0        | \$0       | \$70,938 |       |                             |     |
| <b>60-64</b>                  | 0                         | 4        | 2                       | 0        | 0        | 15         | 16       | 22                         | 22       | 3        | 0     | 0          | 0         | 84       |       |                             |     |
|                               | \$0                       | \$38,354 | \$56,396                | \$0      | \$0      | \$66,501   | \$57,305 | \$72,793                   | \$73,799 | \$74,047 | \$0   | \$0        | \$0       | \$66,997 |       |                             |     |
| <b>65-69</b>                  | 0                         | 0        | 0                       | 0        | 0        | 1          | 3        | 5                          | 0        | 0        | 0     | 0          | 0         | 9        |       |                             |     |
|                               | \$0                       | \$0      | \$0                     | \$0      | \$0      | * \$84,787 | \$63,474 | \$0                        | \$0      | \$0      | \$0   | \$0        | \$0       | \$74,156 |       |                             |     |
| <b>70 &amp; Over</b>          | 0                         | 0        | 0                       | 0        | 0        | 0          | 0        | 0                          | 0        | 0        | 0     | 0          | 0         | 0        |       |                             |     |
|                               | \$0                       | \$0      | \$0                     | \$0      | \$0      | \$0        | \$0      | \$0                        | \$0      | \$0      | \$0   | \$0        | \$0       | \$0      |       |                             |     |
| <b>Total</b>                  | 401                       | 721      | 837                     | 739      | 824      | 3,578      | 3,097    | 2,140                      | 1,840    | 383      | 0     | 0          | 0         | 14,560   |       |                             |     |
|                               | \$44,937                  | \$48,813 | \$51,709                | \$56,395 | \$59,800 | \$64,582   | \$69,917 | \$73,837                   | \$78,096 | \$77,939 | \$0   | \$0        | \$0       | \$66,388 |       |                             |     |
| <b>Average:</b>               | Age                       | 39.5     | Number of Participants: | Vested   | 10,557   | Males      | 13,360   | Early Retirement Eligible: | 540      | Service  | 10.7  | Not Vested | 4,003     | Females  | 1,200 | Normal Retirement Eligible: | 754 |

\*Salary omitted for privacy reasons



## Historical Data

| Historical Data                      |         |         |                   |         |          |
|--------------------------------------|---------|---------|-------------------|---------|----------|
| (Dollars in millions)                | 2003    | 2002    | 2001 <sup>1</sup> | 2000    | 1999     |
| <b>Contribution Information</b>      |         |         |                   |         |          |
| Employer Rate                        | 4.32%   | 3.84%   | 3.03%             | 2.41%   | 3.46%    |
| State Rate                           | 2.88%   | 2.57%   | 2.02%             | 1.61%   | 2.31%    |
| Employee Rate                        | 7.20%   | 6.41%   | 5.05%             | 4.02%   | 5.77%    |
| <b>Funded Status</b>                 |         |         |                   |         |          |
| Credited Projected Liability         | \$2,194 | \$1,937 | \$1,668           | \$1,528 | \$1,408  |
| Market Value of Assets               | \$2,541 | \$2,136 | \$2,210           | \$2,378 | \$2,288  |
| Actuarial Value of Assets            | \$2,740 | \$2,646 | \$2,576           | \$2,459 | \$2,163  |
| Unfunded Liability                   | (\$547) | (\$709) | (\$907)           | (\$931) | (\$755)  |
| Funded Ratio                         | 124.91% | 136.62% | 154.00%           | 161.00% | 154.00%  |
| <b>Participant Data</b>              |         |         |                   |         |          |
| Number of Actives                    | 14,560  | 14,011  | 13,585            | 13,133  | 12,713   |
| Total Annual Salaries                | \$967   | \$902   | \$831             | \$780   | \$725    |
| Number of Terminated Vested          | 439     | 376     | 303               | 248     | 216      |
| Number of Terminated, Not Vested     | 1,186   | 1,137   | 1,051             | 940     | 875      |
| Number of Retirees and Beneficiaries | 316     | 244     | 184               | 143     | 100      |
| Total Annual Benefits                | \$5     | \$3     | \$2               | \$2     | \$1      |
| <b>Assumptions</b>                   |         |         |                   |         |          |
| Valuation Interest Rate              | 8.00%   | 8.00%   | 5.90%             | 8.00%   | 7.50%    |
| Salary Increase                      | 7.70%   | 7.80%   | 5.80%             | 4.00%   | 4.00%    |
| Inflation <sup>2</sup>               | 3.50%   | 3.50%   | 3.50%             | 3.50%   | 3.50%    |
| Growth in Membership                 | 1.25%   | 1.25%   | 0.94%             | 1.25%   | 1.25%    |
| <b>Actuarial Experience</b>          |         |         |                   |         |          |
| Return on Market Value               | 15.13%  | (6.31%) | (9.77%)           | 0.37%   | 18.54%   |
| Return on Actuarial Value            | 0.60%   | 0.10%   | 2.00%             | 9.80%   | 16.60%   |
| Salary Increase                      | 4.80%   | 7.00%   | 4.60%             | 5.90%   | 3.90%    |
| Inflation                            | 1.81%   | 3.55%   | 3.75%             | 3.10%   | 2.63%    |
| Growth in Membership                 | 2.59%   | 1.73%   | 1.83%             | 1.22%   | 4.33%    |
| COLA <sup>3</sup>                    | 3.00%   | 3.00%   | 3.00%             | 3.00%   | 2.63%-3% |

<sup>1</sup>For the 2001 valuation, the salary, interest, and growth rates were not annualized. They reflect the actual valuation period of nine months.

<sup>2</sup>Based on the assumption for prior year's CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

<sup>3</sup>COLA is based on the CPI (3% maximum per year).

## Glossary

**Actuarial accrued liability:** Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the present value of fully projected benefits attributable to service credit that has been earned (or accrued) as of the valuation date.

**Actuarial gain or loss:** Experience of the plan, from one year to the next, which differs from that assumed will result in an actuarial gain or loss. For example, an actuarial gain would occur if assets earned 10% for a given year since the assumed interest rate in the valuation is 8%.

**Actuarial value of assets:** The value of pension plan investments and other property used by the actuary for the purpose of an actuarial valuation (sometimes referred to as valuation assets). It is common for actuaries to select an actuarial valuation method that smoothes the effects of short-term volatility in the market value of assets.

**Normal cost:** Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year. The employer normal cost is the total normal cost of the plan reduced by employee contributions.

**Present value of credited projected benefits:** The actuarial accrued liability computed under the Projected Unit Credit (PUC) funding method.

**Present value of fully projected benefits:** Computed by projecting the total future benefit cash flow from the plan, using actuarial assumptions (i.e., probability of death, retirement, salary increases, etc.), and then discounting the cash flow to the valuation date using the valuation interest rate.

**Projected Unit Credit (PUC) Funding Method:** The PUC funding method is a standard actuarial funding method. The annual cost of benefits under PUC is comprised of two components:

- Normal cost; plus
- Amortization of the unfunded actuarial accrued liability.

The PUC normal cost is the estimated present value of projected benefits to be earned in the current plan year.

**Unfunded actuarial accrued liability:** The excess, if any, of the actuarial accrued liability over the actuarial value of assets. In other words, the present value of benefits earned to date that are not covered by plan assets.