

**FIRE AND POLICE PENSION ASSOCIATION**

COLORADO SPRINGS NEW HIRE PENSION PLAN-POLICE COMPONENT  
ACTUARIAL VALUATION REPORT  
FOR THE YEAR BEGINNING JANUARY 1, 2011



To: Board of Trustees for the Fire and Police Pension Association  
CC: Administrative Heads and Finance Officers of the City of Colorado Springs  
Date: May 2011  
Subject: **Actuarial Valuation Results as of January 1, 2011**

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This report contains the actuarial valuation results as of January 1, 2011 for the Colorado Springs New Hire Pension Plan – Police Component as determined by Gabriel, Roeder, Smith & Company (GRS), actuary for the Fire and Police Pension Association (FPPA). Questions about this report should be directed to FPPA, rather than to Gabriel, Roeder, Smith & Company.

### **Financing Objectives**

This valuation was prepared to determine the annual required contribution (ARC) for fiscal year 2012. The ARC for FY2012 is 28.544% of payroll and is shown in Table 1, Item 10.

The calculated employer contribution consists of the sum of two pieces: the normal cost and the amortization of the unfunded actuarial accrued liability (UAAL). The calculated contribution is shown in Table 1, Item 9. The normal cost (shown in Table 1, Item 2) can be viewed as the regular, ongoing cost of the Plan.

The UAAL is the amount by which the actuarial value of assets falls short of, or exceeds, the actuarial accrued liability for this Plan. Under the current funding policy, the UAAL must be amortized under a level dollar method over a period of 27 years. The required payment to amortize the UAAL is shown in Table 1, Item 8.

### **Benefit Provisions**

This actuarial valuation reflects the provisions that were applicable to the Colorado Springs New Hire Pension Plan – Police Component as of the valuation date. The details of the actuarial calculations, based on the current benefit provisions, are described in this report. If alternatives were requested, a summary of the alternative requested and the actuarial results based on those packages is shown in Table 18.

### **SRA Contributions**

As of January 1, 2011, the combined member/employer contribution rate is over 16.00% and therefore we recommend the SRA contribution rate be set to 0.00% as of January 1, 2010.

### **Actuarial Assumptions and Methods**

Since the prior valuation, there was a change in the method used to determine the actuarial value of assets. This change continues to approximate a 3-year smoothing period and had no material impact on this valuation. The change was implemented because the new method is less volatile than the old method and will stay closer to the market value of assets over time. This was the only change to the actuarial methods and assumptions since the prior report. The methods and

assumptions have been selected by the Board of Directors of FPPA based upon the actuary's analysis and recommendations from the 2008 Experience Study. A summary of those assumptions and methods can be found in Table 14. Liabilities were determined under the entry age normal actuarial cost method.

Because the plan is closed to new members, the amortization period was closed at 30 years effective January 1, 2008.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution and funding periods. The actuarial calculations are intended to provide information for rational decision making.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

### **Assets**

Table 4 shows the market value of assets for this department and Table 5 shows the development of the actuarial value. The actuarial value is an adjusted market value. The expected actuarial value is determined using the assumed 8.00% investment return rate and the cash flow of the plan. The difference between the expected actuarial value of assets and the actual market value is the excess return (or shortfall). The final actuarial value recognizes this excess return (or shortfall) at the rate of 33% per year. This smoothed average approach dampens the year-to-year fluctuations in the calculated contribution.

### **Member Data**

Member data as of January 1, 2011 was supplied by FPPA, as supplied by the department throughout the normal course of business. GRS reviewed the data and tested it for reasonableness and consistency. The member count is shown in Table 3.

### **Experience**

The plan experienced a decrease in its calculated contribution between the 2010 actuarial valuation and this valuation. This decrease was primarily due to the significant salary/rank escalation gains. Table 2 shows the detailed calculations of the gains and losses since the prior valuation.

### **Deferred Losses and Projected Actuarial Results**

To allow the City to anticipate future contribution requirements for the Fund, we have projected the actuarial status of the Fund as of January 1, 2012. The table below provides the ARC for Fiscal Years 2012 - 2016 based on the January 1, 2011 actuarial valuation and an estimated ARC for Fiscal Years 2012, based on three different investment return scenarios.

| Fiscal Year<br>(FY) | ARC                         |                             |                              |
|---------------------|-----------------------------|-----------------------------|------------------------------|
|                     | Assuming 4%<br>return in FY | Assuming 8%<br>return in FY | Assuming 12%<br>return in FY |
| 2012                | \$9,619,134                 | \$9,619,134                 | \$9,619,134                  |
| 2013                | \$9,859,417                 | \$9,621,241                 | \$9,383,066                  |
| 2014                | \$10,233,820                | \$9,564,778                 | \$8,879,337                  |
| 2015                | \$10,716,036                | \$9,467,188                 | \$8,141,686                  |
| 2016                | \$11,376,040                | \$9,409,399                 | \$7,257,403                  |

The projected liabilities are calculated by rolling forward the liabilities as of January 1, 2011, taking into account interest and benefit payments for the year, including mortality incidence and anticipated cost of living increases. The 8% scenario above coincides with the actuarial investment return assumption of 8.0%. The 4% and 12% scenarios were selected because there is statistically a high probability of the return for a two year period being inside the expected return +/- 4%.

The scenarios above are for illustration purposes only and are in no way to be used as expected investment performance. There are no other deviations from the expected taken into consideration besides the asset performance. Careful consideration of this projected contribution should be taken into account before any benefit enhancement is adopted.

**Tables**

This report includes the following sections:

- The executive summary includes a condensed summary of the demographic, financial, and actuarial data.
- Table 1 provides the details of the development of the required contribution.
- Table 2 shows the sources of change in the calculated contribution since the prior valuation.
- Table 3 shows historical actuarial and demographic data for the department.
- Tables 4, 5, and 6 show the development of the financial information.
- Tables 7, 8, 9, and 10 provide information that is required under the Governmental Accounting Standards Board Statement No. 25 (GASB 25) and No. 27 (GASB 27). Your auditor will need this information in preparing your financial statements.
- Table 11 shows historical cash flow information.
- Tables 12, 13, and 14 show demographic data for the department.
- Table 15 shows the actuarial assumptions and methods used to calculate the liabilities.
- Table 16 is a summary of the benefit provisions for the department.
- Table 17 provides definitions of several terms used throughout the report.

- Table 18 shows a description of and an analysis of any alternative studies requested by the department.

### **Certification**

We certify that the information included herein and contained in the 2011 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Colorado Springs New Hire Police Pension Fund as of January 1, 2011.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the State of Colorado statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. Ms. Ye and Mr. Newton are members of the Society of Actuaries and members of American Academy of Actuaries. Mr. Newton is also an Enrolled Actuary. Both are experienced in performing valuations for public retirement systems.

Respectfully submitted,  
Gabriel Roeder Smith & Company



Linna Ye, ASA  
Actuary



Joseph Newton, FSA, EA  
Senior Consultant

| Item   | January 1, 2011<br>(1) | January 1, 2010<br>(2) |
|--|------------------------|------------------------|
| <b>Membership</b>                                |                        |                        |
| • Number of:                                     |                        |                        |
| - Active members                                 | 470                    | 501                    |
| - Terminated vested members                      | 18                     | 18                     |
| - Inactive members                               | 11                     | 10                     |
| - Members in DROP                                | 41                     | 34                     |
| - Disabled members                               | 0                      | 0                      |
| - Retired members                                | 124                    | 110                    |
| - Beneficiaries                                  | 1                      | 1                      |
| - Total  | 665                    | 674                    |
| • Annualized payroll supplied by FPPA            | \$ 33,357,427          | \$ 35,550,304          |
| • Annualized monthly benefits paid               | \$ 6,523,774           | \$ 5,506,295           |
| <b>Assets</b>                                    |                        |                        |
| • Market value                                   | \$ 184,076,676         | \$ 158,403,521         |
| • Actuarial value                                | 187,249,190            | 170,960,335            |
| • Return on market value                         | 13.5 %                 | 19.8 %                 |
| • Return on actuarial value                      | 7.1 %                  | 8.0 %                  |
| • Contribution                                   | \$ 10,233,797          | \$ 8,216,628           |
| • Ratio of actuarial value to market value       | 102 %                  | 108 %                  |
| <b>Actuarial Information</b>                     |                        |                        |
| • Actuarial accrued liability                    | \$ 226,088,133         | \$ 213,764,095         |
| • Unfunded actuarial accrued liability/(surplus) | 38,838,943             | 42,803,760             |
| • Amortization period (years)                    | 27                     | 28                     |
| • Calculated annual contribution as % of payroll | 28.544 %               | 28.906 %               |
| • GASB funded ratio                              | 82.8 %                 | 80.0 %                 |
| <b>Annual Required Contribution (ARC)</b>        |                        |                        |
| • For year ending December 31,                   | 2012                   | 2011                   |
| • Required Contribution Rate                     | 28.544 %               | 28.906 %               |
| • Estimated contribution amount                  | \$ 9,619,134           | \$ 10,256,567          |

**Table of Contents**

|   |    |
|---|----|
| Table 1: Development of Annual Required Contribution              | 3  |
| Table 2: Change in UAAL/Calculated Contribution                   | 4  |
| Table 3: Actuarial Experience                                     | 5  |
| Table 4: Reconciliation of Net Plan Assets                        | 6  |
| Table 5: Development of Actuarial Value of Assets                 | 7  |
| Table 6: Gain/Loss on Assets                                      | 8  |
| Table 7: Statement of Funding Progress                            | 9  |
| Table 8: GASB No. 25 and No. 27                                   | 10 |
| Table 9: Notes for Financial Statements                           | 11 |
| Table 10: Solvency Test   | 12 |
| Table 11: Cash Flow Analysis                                      | 13 |
| Table 12: Membership Data   | 14 |
| Table 13: Summary of Retirees by Age and Type                     | 15 |
| Table 14: Added and Removed from Rolls                            | 16 |
| Table 15: Summary for Actuarial Assumptions, Methods, and Changes | 17 |
| Table 16: Summary of Benefit Provisions                           | 22 |
| Table 17: Definition of Terms                                     | 25 |
| Table 18: Supplemental Studies                                    | 27 |

**Development of Annual Required Contribution**

|  | January 1, 2011<br><u>(1)</u> | January 1, 2010<br><u>(2)</u> |
|--|-------------------------------|-------------------------------|
| 1. Valuation payroll   | \$ 33,357,427                 | \$ 35,550,304                 |
| 2. Normal cost as a % of payroll   | 18.453 %                      | 18.450 %                      |
| 3. Actuarial accrued liability for active members  |                               |                               |
| a. Present value of future benefits for active members   | \$ 182,158,046                | \$ 189,466,644                |
| b. Less: present value of future normal costs  | <u>(52,633,660)</u>           | <u>(57,920,615)</u>           |
| c. Actuarial accrued liability (a. + b.)   | \$ 129,524,386                | \$ 131,546,029                |
| 4. Total actuarial accrued liability for:  |                               |                               |
| a. Retirees and beneficiaries  | \$ 61,098,310                 | \$ 52,706,324                 |
| b. Terminated vested members   | 2,776,093                     | 3,049,527                     |
| c. Inactive members  | 525,668                       | 657,410                       |
| d. Members in DROP   | 32,163,690                    | 25,804,812                    |
| e. Active members (3c.)  | 129,524,386                   | 131,546,029                   |
| f. Total   | <u>\$ 226,088,147</u>         | <u>\$ 213,764,095</u>         |
| 5. Actuarial value of assets   | \$ 187,249,190                | \$ 170,960,335                |
| 6. Unfunded actuarial accrued liability (UAAL)/(surplus)<br>(4e. - 5.)                                     | \$ 38,838,957                 | \$ 42,803,760                 |
| 7. Funded ratio  | 82.82 %                       | 79.98 %                       |
| 8. Required payment as a % of payroll to amortize the UAAL/(surplus)<br>Over 27 years from January 1, 2011 | 10.091 %                      | 10.456 %                      |
| 9. Total calculated annual contribution for Fiscal Year:   | <u>2012</u>                   | <u>2011</u>                   |
| a. Total calculated contribution as a % of payroll (2. + 8.)   | 28.544 %                      | 28.906 %                      |
| b. Estimated contribution  | \$ 9,619,134                  | \$ 10,256,567                 |
| 10. Annual required contribution under GASB #25<br>(9a., not less than 0)                                  | 28.544 %                      | 28.906 %                      |
| 11. Total present value of benefits (4e. - 3b.)  | \$ 278,721,807                | \$ 271,684,710                |

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2011**

**Table 2**

**Actuarial Gain/(Loss) on UAAL**

|   |               |
|---|---------------|
| 1. Unfunded actuarial accrued liability (UAAL)<br>as of January 1 of prior valuation year | \$ 42,803,760 |
| 2. Total normal cost for FY2010   | 7,185,311     |
| 3. Contributions during FY2010  | (10,233,797)  |
| 4. Interest at 8.0%   | 3,302,361     |
| 5. Expected UAAL as of this valuation (1. + 2. + 3. + 4.)                                 | \$ 43,057,635 |
| 6. Actual UAAL at end of period   | \$ 38,838,943 |
| 7. Actuarial gain/(loss) for the period (5. – 6.)   | \$ 4,218,692  |

SOURCE OF GAINS/(LOSSES)

|  |                |
|--|----------------|
| 8. Asset gain/(loss) (See Table 6)                                       | \$ (1,562,581) |
| 9. Benefit change gain/(loss)  | \$ 0           |
| 10. Assumption change gain/(loss)  | \$ 0           |
| 11. Salary/rank liability gain/(loss) for the period                     | \$ 7,163,551   |
| 12. Net liability gain/(loss) for the period * (7. - 8. - 9. - 10.- 11.) | \$ (1,382,277) |

**Change in Calculated Contribution**

|                                  |           |          |
|----------------------------------|-----------|----------|
| 1. Calculated contribution 2010  |           | 28.906 % |
| 2. Benefit changes               | 0.000 %   |          |
| 3. Assumption/method changes     | 0.000     |          |
| 4. Change in Normal Cost         | 0.003     |          |
| 5. Investment experience         | 0.420     |          |
| 6. Salary/rank experience        | (1.940)   |          |
| 7. Effect of decreasing payroll  | 0.550     |          |
| 8. Other liability experience    | 0.605     |          |
| 9. Total change                  | (0.362) % |          |
| 10. Calculated contribution 2011 |           | 28.544 % |

\* The plan experienced liability losses in 2010 from less termination than expected.

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2011**

**Table 3**

**Actuarial Experience**

|                                 | <u>2011</u>  | <u>2010</u>   | <u>2009</u>   | <u>2008</u>   | <u>2007</u>   | <u>2006</u>   | <u>2005</u>   |
|---------------------------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1. Number of members            |              |               |               |               |               |               |               |
| a. Active                       | 470          | 501           | 525           | 562           | 631           | 644           | 637           |
| b. Retired                      | 124          | 110           | 90            | 73            | 61            | 54            | 50            |
| c. DROP                         | 41           | 34            | 40            | 40            | 31            | 24            | 16            |
| d. Beneficiaries                | 1            | 1             | 0             | 0             | 0             | 0             | 0             |
| e. Terminated vested            | 18           | 18            | 16            | 20            | 21            | 21            | 17            |
| f. Inactive                     | 11           | 10            | NA            | NA            | NA            | NA            | NA            |
| g. Total                        | 665          | 674           | 671           | 695           | 744           | 743           | 720           |
| 2. Covered payroll              | 33,357,427   | \$ 35,550,304 | \$ 36,735,114 | \$ 39,048,754 | \$ 40,438,034 | \$ 39,294,072 | \$ 34,437,864 |
| 3. Average compensation         | 70,973       | \$ 70,959     | \$ 69,972     | \$ 69,482     | \$ 64,086     | \$ 61,016     | \$ 54,063     |
| 4. Valuation results            |              |               |               |               |               |               |               |
| a. Normal cost                  | \$ 6,280,662 | \$ 6,661,663  | \$ 6,892,733  | \$ 7,337,461  | \$ 6,810,814  | \$ 6,476,527  | \$ 5,714,739  |
| b. Accrued liability            | 226,088,133  | 213,764,095   | 198,695,916   | 188,263,199   | 161,530,980   | 139,568,165   | 122,896,108   |
| c. Actuarial value of assets    | 187,249,190  | 170,960,335   | 156,099,012   | 178,548,095   | 159,508,243   | 137,688,853   | 117,965,939   |
| d. Unfunded liability           | 38,838,943   | 42,803,760    | 42,596,904    | 9,715,104     | 2,022,737     | 1,879,312     | 4,930,169     |
| e. Remaining amortization       | 27           | 28            | 29            | 30            | 30            | 30            | 30            |
| f. Funded ratio                 | 82.8 %       | 80.0 %        | 78.6 %        | 94.8 %        | 98.7 %        | 98.7 %        | 96.0 %        |
| 5. Annual required contribution |              |               |               |               |               |               |               |
| a. Amount                       | 28.5 %       | 28.9 %        | 29.2 %        | 20.9 %        | 16.9 %        | 16.3 %        | 16.1 %        |
| 6. Estimated contribution       | \$ 9,619,134 | \$ 10,256,567 | \$ 10,663,733 | \$ 8,142,483  | \$ 6,794,010  | \$ 7,115,714  | \$ 5,984,186  |

Item 5 above is the calculated contribution as it is described throughout the report: normal cost plus the amortization of the UAAL under the policy as described in the current statutes.

Reconciliation of Net Plan Assets

|  | Year Ending       |                   |
|--|-------------------|-------------------|
|  | 12/31/2010<br>(1) | 12/31/2009<br>(2) |
| 1. Market value of assets at beginning of year     | \$ 158,403,521    | \$ 130,082,510    |
| 2. Revenue for the year                            |                   |                   |
| a. Contributions                                   |                   |                   |
| i. Department contributions                        | \$ 10,233,797     | \$ 8,216,628      |
| ii. State contributions                            | 0                 | 0                 |
| iii. Affiliation contributions                     | 0                 | 0                 |
| iv. Total  | \$ 10,233,797     | \$ 8,216,628      |
| b. Net investment income                           |                   |                   |
| i. Interest  | \$ 1,715,303      | \$ 727,020        |
| ii. Dividends                                      | 2,129,488         | 1,909,011         |
| iii. Real estate                                   | 119               | 202               |
| iv. Net change in accrued income                   | (139,807)         | (150,055)         |
| v. Unrealized gain/(loss)                          | 14,002,854        | 24,175,826        |
| vi. Realized gain/(loss)                           | 5,044,373         | 2,007,180         |
| vii. Deferred contribution earnings                | (30,809)          | (46,158)          |
| viii. Fees and expenses                            | (1,272,055)       | (1,094,898)       |
| ix. Other Income                                   | 209,642           | (1,522,106)       |
| c. Total revenue                                   | \$ 31,892,905     | \$ 34,222,650     |
| 3. Expenditures for the year                       |                   |                   |
| a. Benefit payments                                | \$ (6,001,195)    | \$ (5,615,610)    |
| b. Refunds   | (218,555)         | (274,889)         |
| c. Administrative and miscellaneous expenses       | 0                 | (11,140)          |
| d. Total expenditures                              | (6,219,750)       | (5,901,639)       |
| 4. Increase in net assets (2c. + 3d.)              | \$ 25,673,155     | \$ 28,321,011     |
| 5. Market value of assets at end of year (1. + 4.) | \$ 184,076,676    | \$ 158,403,521    |

**Development of Actuarial Value of Assets**

|   | <u>Year Ending</u><br><u>12/31/2010</u><br>(1) |
|---|--|
| 1. Actuarial value as of January 1                          | \$ 170,960,335                                 |
| a. Contributions  | \$ 10,233,797                                  |
| b. Benefits paid  | (6,001,195)                                    |
| c. Refunds  | <u>(218,555)</u>                               |
| d. Net cash flow  | \$ 4,014,047                                   |
| 2. Expected actuarial value of assets as of December 31     | \$ 188,811,771                                 |
| 3. Actual market value of assets as of December 31          | \$ 184,076,676                                 |
| 4. Excess earnings/(shortfall)                              | \$ (4,735,095)                                 |
| 5. Excess earnings/(shortfall) recognized (33% x 4.)        | \$ (1,562,581)                                 |
| 6. Actuarial value of assets as of December 31<br>(2. + 5.) | \$ 187,249,190                                 |

Calculation for 2010 not shown because of the change in method since prior valuation.

**Gain/(Loss) on Assets**

|  | <u>12/31/2010</u> |
|--|-------------------|
| 1. Actuarial assets as of January 1                      | \$ 170,960,335    |
| 2. Total contributions since prior valuation             | \$ 10,233,797     |
| 3. Benefits and refunds since prior valuation            | \$ (6,219,750)    |
| 4. Assumed net investment income at 8.0%                 |                   |
| a. Beginning assets                                      | \$ 13,676,827     |
| b. Contributions   | 409,352           |
| c. Benefits and refunds paid                             | <u>(248,790)</u>  |
| d. Total   | \$ 13,837,389     |
| 5. Expected actuarial assets (1. + 2. + 3. + 4.)         | \$ 188,811,771    |
| 6. Actual actuarial assets as of December 31             | \$ 187,249,190    |
| 7. Net asset gain/(loss) since prior valuation (6. - 5.) | \$ (1,562,581)    |

Loss

Statement of Funding Progress for GASB No. 25

| Date            | Actuarial Value<br>of Assets (AVA) | Actuarial Accrued<br>Liability (AAL) | Unfunded Actuarial<br>Accrued Liability<br>(UAAL (3) - (2)) | Funded Ratio<br>(2)/(3) | Annual<br>Covered<br>Payroll | UAAL as a<br>of payroll |
|-----------------|------------------------------------|--------------------------------------|---|-------------------------|------------------------------|-------------------------|
| (1)             | (2)                                | (3)                                  | (4)   | (5)                     | (6)                          | (7)                     |
| January 1, 1996 | \$ 43,387,136                      | \$ 30,366,685                        | \$ (13,020,451)   | 142.9 %                 | 15,641,941                   | (83) %                  |
| January 1, 1998 | 63,082,332                         | 45,567,059                           | (17,515,273)  | 138.4 %                 | 20,386,441                   | (86) %                  |
| January 1, 2000 | 86,139,093                         | 72,268,663                           | (13,870,430)  | 119.2 %                 | 22,905,603                   | (61) %                  |
| January 1, 2002 | 97,169,645                         | 91,016,905                           | (6,152,740)   | 106.8 %                 | 29,154,383                   | (21) %                  |
| January 1, 2004 | 105,649,541                        | 117,092,862                          | 11,443,321  | 90.2 %                  | 33,432,961                   | 34 %                    |
| January 1, 2005 | 117,965,939                        | 122,896,108                          | 4,930,169   | 96.0 %                  | 34,437,864                   | 14 %                    |
| January 1, 2006 | 137,688,853                        | 139,568,165                          | 1,879,312   | 98.7 %                  | 39,294,072                   | 5 %                     |
| January 1, 2007 | 159,508,243                        | 161,530,980                          | 2,022,737   | 98.7 %                  | 40,438,034                   | 5 %                     |
| January 1, 2008 | 178,548,095                        | 188,263,199                          | 9,715,104   | 94.8 %                  | 39,048,754                   | 25 %                    |
| January 1, 2009 | 156,099,012                        | 198,695,916                          | 42,596,904  | 78.6 %                  | 36,735,114                   | 116 %                   |
| January 1, 2010 | 170,960,335                        | 213,764,095                          | 42,803,760  | 80.0 %                  | 35,550,304                   | 120 %                   |
| January 1, 2011 | 187,249,190                        | 226,088,133                          | 38,838,943  | 82.8 %                  | 33,357,427                   | 116 %                   |

**GASB No. 25 and No. 27**

The "Annual Required Contribution" (ARC) is the sum of the normal cost and the amortization of the UAAL. The annual pension cost is the ARC plus interest on the "Net Pension Obligation" (NPO) as of the beginning of the year less an adjustment to the ARC for the amortization of the NPO. The amount shown below as the NPO is a disclosed measure of the difference between the cumulative annual pension costs and employer contributions made to the plan since transition to this reporting standard. Both standardized measures are calculated as of January 1, 2011, in accordance with Statements No. 25 and No. 27 of the Governmental Accounting Standards Board (GASB). There were no changes to the actuarial assumptions since the prior valuation. Additional information on the changes to the assumptions is found in Table 14.

The following exhibit shows a history of the ARC and the actual contributions made to the Plan.

| Fiscal Year Ending | Annual Required<br>Contribution | Actual<br>Contribution | Percent |
|--------------------|---------------------------------|------------------------|---------|
| (1)                | (2)                             | (3)                    | (4)     |
| December 31, 2008  | 16.864%                         | 16.864%                | 100 %   |
| December 31, 2009  | 20.949%                         | 20.949%                | 100 %   |
| December 31, 2010  | 29.160%                         | 29.160%                | 100 %   |
| December 31, 2011  | 28.906%                         | N/A                    |         |
| December 31, 2012  | 28.544%                         | N/A                    |         |

The following exhibit details the change in the NPO since the prior valuation and estimates the NPO as of the next valuation using the ARC as shown in this report and expected contributions.

|  | Year Ending         |                     |                     |
|--|---------------------|---------------------|---------------------|
|  | 12/31/2010<br>(1)   | 12/31/2011**<br>(2) | 12/31/2012**<br>(3) |
| 1. NPO beginning of year                 | \$ 0                | \$ 0                | \$ 0                |
| 2. Interest on NPO                       | 0                   | 0                   | 0                   |
| 3. Adjustment to ARC                     | 0                   | 0                   | 0                   |
| 4. ARC                                   | 10,233,797          | 9,838,438           | 9,619,134           |
| 5. Contribution                          | <u>(10,233,797)</u> | <u>(9,838,438)</u>  | <u>(9,619,134)</u>  |
| 6. NPO end of year                       | \$ 0                | \$ 0                | \$ 0                |
| 7. Annual Pension Cost<br>(2. + 3. + 4.) | \$ 10,233,797       | \$ 9,838,438        | \$ 9,619,134        |

\*\* This estimate is based on the expected contribution for FY2011 and the calculated contribution for FY2012. If the actual contributions were different, this exhibit would need to be adjusted

**Notes for Financial Statements**

|                               |                                     |
|-------------------------------|-------------------------------------|
| Valuation date                | January 1, 2011                     |
| Actuarial cost method         | Entry age normal                    |
| Amortization method           | Level dollar, closed                |
| Remaining amortization period | 27 years, beginning January 1, 2011 |
| Asset valuation method        | 3-year smoothed fair market value   |
| Actuarial assumptions:        |                                     |
| Investment rate of return *   | 8.00%                               |
| Projected salary increase *   | 4.75% - 16.75%                      |
| * Includes inflation at:      | 3.50%                               |
| Cost-of-living adjustment     | 3.00%                               |

Solvency Test

| Valuation Date  | Aggregated Accrued Liabilities for |  |                                     | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Reported Assets |               |                   |
|-----------------|------------------------------------|--|-------------------------------------|---------------------------|---|---------------|-------------------|
|                 | Active Members Contributions       | Retirees Beneficiaries and Vested Terminations | Members (Employer Financed Portion) |                           | (5)/(2)   | [(5)-(2)]/(3) | [(5)-(2)-(3)]/(4) |
| (1)             | (2)                                | (3)  | (4)                                 | (5)                       | (6)   | (7)           | (8)               |
| January 1, 2007 | 25,345                             | 45,637   | 90,549                              | 159,508                   | 100.0%  | 100.0%        | 97.8%             |
| January 1, 2008 | 26,162                             | 57,986   | 104,116                             | 178,548                   | 100.0%  | 100.0%        | 90.7%             |
| January 1, 2009 | 26,693                             | 70,017   | 101,986                             | 156,099                   | 100.0%  | 100.0%        | 58.2%             |
| January 1, 2010 | 28,025                             | 82,218   | 103,521                             | 170,963                   | 100.0%  | 100.0%        | 58.7%             |
| January 1, 2011 | 28,721                             | 96,564   | 100,804                             | 187,249                   | 100.0%  | 100.0%        | 61.5%             |

\$ amount in 000s

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2011**

**Table 11**

**Cash Flow Analysis**

| Year Ending<br>December 31, | Contributions<br>for the Year | Expenditures During the Year |              |               | External Cash<br>Flow for the<br>Year | Market Value<br>of Assets | External Cash<br>Flow as Percent<br>of Market Value |
|-----------------------------|-------------------------------|------------------------------|--------------|---------------|---------------------------------------|---------------------------|---|
|                             |                               | Benefit<br>Payments **       | Expenses     | Total         |                                       |                           |   |
| (1)                         | (2)                           | (3)                          | (6)          | (7)           | (8)                                   | (9)                       | (10)  |
| 2003                        | \$ 6,504,453                  | \$(1,290,341)                | \$ (397,605) | \$(1,687,946) | \$ 4,816,507                          | \$ 107,866,833            | 4.5 %   |
| 2004                        | 6,156,684                     | (2,820,944)                  | (442,282)    | (3,263,226)   | 2,893,458                             | 124,349,090               | 2.3   |
| 2005                        | 6,841,155                     | (2,572,567)                  | (937,491)    | (3,510,058)   | 3,331,097                             | 140,611,634               | 2.4   |
| 2006                        | 7,496,218                     | (2,952,333)                  | (1,056,148)  | (4,008,481)   | 3,487,737                             | 166,078,983               | 2.1   |
| 2007                        | 8,173,010                     | (6,702,696)                  | (1,264,090)  | (7,966,786)   | 206,224                               | 182,745,963               | 0.1   |
| 2008                        | 6,425,431                     | (4,757,098)                  | (1,322,660)  | (6,079,758)   | 345,672                               | 130,082,510               | 0.3   |
| 2009                        | 8,216,628                     | (5,901,639)                  | (1,106,039)  | (7,007,678)   | 1,208,950                             | 158,403,521               | 0.8   |
| 2010                        | 10,233,797                    | (6,219,750)                  | (1,272,055)  | (7,491,805)   | 2,741,992                             | 184,076,676               | 1.5   |
| 2011*                       | 9,838,438                     | (7,219,453)                  | (1,316,577)  | (8,536,030)   | 1,302,408                             | 200,157,315               | 0.7   |
| 2012*                       | 9,619,134                     | (7,971,182)                  | (1,362,657)  | (9,333,839)   | 285,295                               | 216,466,607               | 0.1   |

\* Cash flow estimated based on expected contributions and expected benefit payments.

\*\* Expected Benefit Payments for 2011 and beyond include expected retirements, expected mortality and if applicable, future cost of living increases.

**Membership Data**

|                              | <u>January 1, 2011</u><br>(1) | <u>January 1, 2010</u><br>(2) | <u>January 1, 2009</u><br>(3) |
|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1. Active members            |                               |                               |                               |
| a. Number                    | 470                           | 501                           | 525                           |
| b. Total payroll             | \$ 33,357,427                 | \$ 35,550,304                 | \$ 36,735,114                 |
| c. Average annual salary     | 70,973                        | 70,959                        | 69,972                        |
| d. Average age               | 42.2                          | 41.5                          | 40.7                          |
| e. Average service           | 13.6                          | 12.9                          | 12.1                          |
| 2. Terminated vested members |                               |                               |                               |
| a. Number                    | 18                            | 18                            | 16                            |
| b. Total annual benefits     | \$ 283,629                    | \$ 305,774                    | \$ 243,757                    |
| c. Average annual benefit    | 15,757                        | 16,987                        | 15,235                        |
| d. Average age               | 45                            | 45                            | 46                            |
| 3. Members In DROP           |                               |                               |                               |
| a. Number                    | 41                            | 34                            | 40                            |
| b. Total annual benefits     | \$ 2,218,981                  | \$ 1,804,266                  | \$ 1,970,926                  |
| c. Average annual benefit    | 54,121                        | 53,067                        | 49,273                        |
| d. Average age               | 56                            | 55                            | 55                            |
| 4. Service retirees          |                               |                               |                               |
| a. Number                    | 124                           | 110                           | 90                            |
| b. Total annual benefits     | \$ 4,294,321                  | \$ 3,702,029                  | \$ 2,769,000                  |
| c. Average annual benefit    | 34,632                        | 33,655                        | 30,767                        |
| d. Average age               | 58                            | 57                            | 57                            |
| 5. Beneficiaries             |                               |                               |                               |
| a. Number                    | 1                             | 1                             | 0                             |
| b. Total annual benefits     | \$ 10,473                     | \$ 10,473                     | \$ 0                          |
| c. Average annual benefit    | 10,473                        | 10,473                        | N/A                           |
| d. Average age               | 56                            | 55                            | N/A                           |
| 6. Inactive members          |                               |                               |                               |
| a. Number                    | 11                            | 10                            | NA                            |

Summary of Retirees by Age and Type

| Age             | Retirees |                         | Disabled Members |                         | Beneficiaries |                         | Members in DROP |                         | All    |                         |
|-----------------|----------|-------------------------|------------------|-------------------------|---------------|-------------------------|-----------------|-------------------------|--------|-------------------------|
|                 | Number   | Average Monthly Pension | Number           | Average Monthly Pension | Number        | Average Monthly Pension | Number          | Average Monthly Pension | Number | Average Monthly Pension |
| (1)             | (2)      | (3)                     | (4)              | (5)                     | (6)           | (7)                     | (8)             | (9)                     | (10)   | (11)                    |
| Less than 50    | 0        | \$ 0                    | 0                | \$ 0                    | 0             | \$ 0                    | 0               | \$ 0                    | 0      | \$ 0                    |
| 50-54           | 27       | 3,101                   | 0                | 0                       | 0             | 0                       | 16              | 4,483                   | 43     | 3,615                   |
| 55-59           | 54       | 2,945                   | 0                | 0                       | 1             | 873                     | 19              | 4,723                   | 74     | 3,374                   |
| 60-64           | 38       | 2,731                   | 0                | 0                       | 0             | 0                       | 6               | 3,908                   | 44     | 2,891                   |
| 65-69           | 5        | 2,263                   | 0                | 0                       | 0             | 0                       | 0               | 0                       | 5      | 2,263                   |
| 70-74           | 0        | 0                       | 0                | 0                       | 0             | 0                       | 0               | 0                       | 0      | 0                       |
| 75-79           | 0        | 0                       | 0                | 0                       | 0             | 0                       | 0               | 0                       | 0      | 0                       |
| Greater than 80 | 0        | 0                       | 0                | 0                       | 0             | 0                       | 0               | 0                       | 0      | 0                       |
| All             | 124      | 2,886                   | 0                | 0                       | 1             | 873                     | 41              | 4,510                   | 166    | 3,275                   |

**Schedule of Retirants & Annuitants Added to and Removed from Rolls**

| Valuation Year | Added to Rolls |                     | Removed from Rolls |                    | Rolls-End of Year |                    | % Increase<br>in Annual<br>Benefits | Average<br>Annual<br>Benefits | Average<br>Age |
|----------------|----------------|---------------------|--------------------|--------------------|-------------------|--------------------|-------------------------------------|-------------------------------|----------------|
|                | Number         | Annual<br>Benefits* | Number             | Annual<br>Benefits | Number            | Annual<br>Benefits |                                     |                               |                |
| (1)            | (2)            | (3)                 | (4)                | (5)                | (6)               | (7)                | (8)                                 | (9)                           | (10)           |
| 2005           | N/A            | N/A                 | N/A                | N/A                | 66                | \$ 1,933,272       | N/A                                 | \$ 29,292                     | N/A            |
| 2006           | 12             | \$ 443,028          | 0                  | \$ 0               | 78                | \$ 2,376,300       | 22.9 %                              | \$ 30,465                     | 55             |
| 2007           | 14             | \$ 619,230          | 0                  | \$ 0               | 92                | \$ 2,995,530       | 26.1 %                              | \$ 32,560                     | 55.4           |
| 2008           | 21             | \$ 897,046          | 0                  | \$ 0               | 113               | \$ 3,892,576       | 29.9 %                              | \$ 34,448                     | 54.5           |
| 2009           | 17             | \$ 847,350          | 0                  | \$ 0               | 130               | \$ 4,739,926       | 21.8 %                              | \$ 36,461                     | 55.5           |
| 2010           | 16             | \$ 791,367          | 1                  | \$ 14,525          | 145               | \$ 5,516,768       | 16.4 %                              | \$ 38,047                     | 56.0           |
| 2011           | 21             | \$ 1,007,007        | 0                  | \$ 0               | 166               | \$ 6,523,775       | 18.3 %                              | \$ 39,300                     | 57.8           |

\* Includes cost-of-living adjustments granted since the prior valuation.



**Summary for Actuarial Assumptions, Methods, and Changes  
 (Continued)**

- d) Withdrawal (any reason other than retirement, death, or disability)

Termination rates are based on service.  
 Rates at selected ages are shown:

| Police – Annual Rate per 1,000 Members |       |         |         |         |       | Fire – Annual Rate per 1,000 Members |       |         |         |         |       |
|--|-------|---------|---------|---------|-------|--------------------------------------|-------|---------|---------|---------|-------|
| Service                                |       |         | Service |         |       | Service                              |       |         | Service |         |       |
| Service                                | Rates | (cont.) | Rates   | (cont.) | Rates | Service                              | Rates | (cont.) | Rates   | (cont.) | Rates |
| 0                                      | 198.0 | 8       | 35.8    | 16      | 19.4  | 0                                    | 99.0  | 8       | 28.2    | 16      | 11.9  |
| 1                                      | 143.0 | 9       | 32.2    | 17      | 18.3  | 1                                    | 77.1  | 9       | 25.4    | 17      | 10.5  |
| 2                                      | 123.0 | 10      | 29.4    | 18      | 17.4  | 2                                    | 60.8  | 10      | 22.9    | 18      | 9.0   |
| 3                                      | 85.7  | 11      | 27.0    | 19      | 16.6  | 3                                    | 51.3  | 11      | 20.7    | 19      | 7.8   |
| 4                                      | 66.3  | 12      | 25.0    | 20      | 15.8  | 4                                    | 44.4  | 12      | 18.6    | 20      | 6.6   |
| 5                                      | 54.5  | 13      | 23.2    | 21      | 15.2  | 5                                    | 39.3  | 13      | 16.7    | 21      | 5.4   |
| 6                                      | 46.2  | 14      | 21.8    | 22      | 14.5  | 6                                    | 35.0  | 14      | 15.0    | 22      | 4.4   |
| 7                                      | 40.4  | 15      | 20.5    | 23      | 14.0  | 7                                    | 31.4  | 15      | 13.3    | 23      | 3.3   |

3. Post-Retirement Mortality

- a) Healthy Retirees, Beneficiaries, and Disabled Retirees (retired after January 1, 1980)

1994 Group Annuity Mortality Table

| Age | Annual Rate Per 1,000 |         |
|-----|-----------------------|---------|
|     | Males                 | Females |
| 50  | 2.579                 | 1.428   |
| 55  | 4.425                 | 2.294   |
| 60  | 7.976                 | 4.439   |
| 65  | 14.535                | 8.636   |
| 70  | 23.730                | 13.730  |
| 75  | 37.211                | 22.686  |
| 80  | 62.027                | 39.396  |

- b) Disabled Retirees (retired before January 1, 1980)

1983 Railroad Retirement Board Totally Disabled Annuitants Mortality Table

| Age | Annual Rate Per 1,000 Disabled |
|-----|--------------------------------|
| 20  | 10.60                          |
| 30  | 10.60                          |
| 40  | 13.50                          |
| 50  | 31.64                          |
| 60  | 42.46                          |
| 70  | 67.47                          |
| 80  | 107.68                         |



**Summary for Actuarial Assumptions, Methods, and Changes  
(Continued)**

9. Changes in Actuarial Assumptions

There were no changes to the actuarial assumptions since the prior valuation report.

10. Changes in Actuarial Methods

There were no changes to the actuarial methods since the prior valuation.

11. Actuarial Cost Method

Under the entry age actuarial cost method, the normal cost is computed as the level percent of pay, which, if paid from the earliest time each member would have been eligible to join the plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the plan. The normal cost for the plan is determined by summing the normal cost of all members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that should have been accumulated had annual contributions been made in prior years equaling to the normal cost. The unfunded actuarial accrued liability/(surplus) is the excess of the actuarial accrued liability over the actuarial value of the plan assets as of the valuation date.

The contribution requirements determined by this valuation will not be effective until one year later, and the determination of the requirement reflects this deferral. It is assumed that there will be no change in the normal cost due to the deferral, and it is assumed that payments are made monthly throughout the year. The reflection of the one year lag and the timing of the contributions are changes from the methodology of prior valuations.

Under this method, experience gains and losses (i.e. decreases or increases in accrued liabilities), attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

**Summary for Actuarial Assumptions, Methods, and Changes  
(Continued)**

12. Asset Valuation Method

There was a change in the method used in determining the actuarial value of assets since the prior valuation. The new asset valuation method takes the difference between the expected AVA (based on the annual assumed 8.00% invested return rate) and the actual MVA each year, and recognize the excess return (or shortfall) at 33% per year.

### Summary of Benefit Provisions

A. Eligibility

Members included are active employees hired on or after April 8, 1978 but prior to October 1, 2006. As of October 1, 2006, administration of the plan has been transferred to FPPA and the plan has been closed. All members hired on or after October 1, 2006 will become members of the Statewide Defined Benefit Plan.

B. Compensation

Basic salary, including longevity pay, sick pay taken in the normal course of employment, vacation leave pay taken in the normal course of employment, third-week pay and mandatory overtime that is part of the members annual fixed periodic compensation. Also, all salary amounts deferred for 457 or Section 125 “cafeteria plan” are included.

C. Contribution Rate

Members of this fund are currently contributing at the rate of 8.00% of base salary.

D. Normal Retirement Benefit

A member's Normal Retirement Date shall be the date on which the member has completed at least 25 years of credited service and has attained age of 50. Any member who elects to retire on or after his Normal Retirement Date shall be eligible for a monthly pension equal to 2% of Final Average Salary for each year of service for the first 10 years, plus 2.75% of Final Average Salary for each year of service in excess of 10 years. The maximum monthly pension is 75% of Final Average Salary. The maximum pension is earned upon completing 30 years of service.

E. Early Retirement Benefit

A member shall be eligible for an Early Retirement Benefit payable on or after the attainment of age 45 after completion of 20 years of service. For members hired after April 30, 2001 and before October 1, 2003 who completed 20 years of service before age 45 may elect to retire but the Early Retirement Benefit is 50% of Final Average Salary reduced by one half of one percent for each month that the benefit commences prior to age 50. For members hired after September 30, 2003, the Early Retirement Benefit is 2% of Final Average Salary for each year of service for the first 10 years, plus 2.75% of Final Average Salary for each year of service in excess of 10 years. The maximum monthly pension is 75% of Final Average Salary. The Early Retirement Benefit shall be reduced 7.5% for each year that the benefit commences before age 50.

**Summary of Benefit Provisions  
(Continued)**

F. Termination Benefit

1. Vested Retirement Benefit

A member who terminates with at least ten years of active service may leave the contributions in the fund and when the member attains age 50 be eligible to receive a monthly vested benefit equal to 2% of Final Average Salary for each year of credited service for the first 10 years, plus 2.75% of Final Average Salary for each year of credited service in excess of 10 years. The maximum benefit is 75% of Final Average Salary.

2. Severance Benefit

In lieu of a future pension, a member may upon termination elect to have the accumulated contributions refunded in a lump sum. Interest is credited at 5% per annum.

G. Death and Disability Benefits

1. Pre-Retirement Death and Disability Benefit

None.

2. Post-Retirement Death and Disability Benefit

If a retired member dies, the “qualified surviving spouse” shall receive, until death, a monthly pension equal to 70% of the monthly benefit the member was receiving prior to death, including cost-of-living increases. If there is no “qualified surviving spouse” or if the qualified surviving spouse dies, each qualified surviving child should receive equal shares of the qualified surviving spouses benefit, as long as the child remains a “qualified child.”

H. Cost-of-Living Adjustment (COLA)

Benefits are increased to reflect increases in the consumer price index but in no case may benefits be increased by more than 3% for any one year. Cost-of-living adjustments begin on October 1<sup>st</sup> immediately prior to the earlier of attainment of age 60 or ten years after benefit payments commenced.

I. Deferred Retirement Option Plan (DROP)

A member may elect to participate in the DROP after reaching eligibility for Normal Retirement. A member can continue to work while participating in the DROP, but must terminate employment within 5 years of entry into the DROP. The member's percentage of retirement benefit is frozen at the time of entry into the DROP. The monthly payments that begin at entry into the DROP are accumulated until the member terminates service, at which time the DROP accumulated benefits can be paid as a lump sum, if desired. The

**Summary of Benefit Provisions  
(Continued)**

member continues contributing the member contribution rate which is credited to the DROP. Effective March 1, 2003, the member shall self-direct the investments of their DROP funds.

J. Supplemental Retirement Benefit

None.

K. Final Average Salary

Final Average Salary is the average of monthly compensation (defined in B above), awarded to the member during the eighteen months immediately preceding termination or retirement.

L. Purchase of Service Credit

Active members of this plan may purchase service credit for other employment completed within the United States not covered by this plan. The cost of such service credit purchase shall be determined by the Board and shall be on an actuarially equivalent basis. A member shall not be allowed to purchase service credit to the extent that the additional accrued benefits derived from the purchased service credit would result in the annual amount of the member's benefit exceeding the annual benefit limitation for defined benefit plans as determined under section 415 of the Internal Revenue Code (Ord. 02-114).

M. Stabilization Reserve Account (SRA)

Annually, at the discretion of the Board of Directors, a contribution may be allocated to the SRA based on the actuarial study for the previous year. Amounts set aside in the SRA are allocated to individual accounts for each member. A member may receive the amounts in this individual account upon election of normal, early vested, disability or deferred retirement, or in the event of the active member's death. If the cost of the defined benefit plan exceeds the combined member/employer contribution rate, funds from the SRA may be used to make up the shortfall.

N. Changes since the prior valuation

None.

### Definition of Terms

1. Actuarial Cost Method

A method for determining the actuarial present value of future benefits and allocating such value to time periods in the form of a normal cost and an actuarial accrued liability.

2. Present Value of Future Benefits

This is computed by projecting the total future benefit cash flow from the Plan, using actuarial assumptions, and then discounting the cash flow to the valuation date.

3. Normal Cost

Computed differently under different actuarial cost methods, the normal cost generally represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued during a year.

4. Actuarial Accrued Liability

Computed differently under different actuarial cost methods. Generally actuarial accrued liability represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued as of the valuation date.

5. Entry Age Actuarial Cost Method

A method under which a participant's actuarial present value of future benefits is allocated on a level basis over the earnings of the participant between his/her entry into the Plan and his/her assumed exit.

6. Unfunded Actuarial Accrued Liability

The difference between total actuarial present value of future benefits over the sum of the tangible assets of the Plan and the actuarial present value of the members' future normal costs. The Plan is underfunded if the difference is positive and overfunded if the difference is negative.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to the Plan, as valued by the actuary for purposes of the actuarial valuation.

**Definition of Terms  
(Continued)**

8. Actuarial Gain or Loss

From one valuation to the next, if the experience of the plan differs from that anticipated by the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the assets in the trust had a yield of 12% based on actuarial value, while the assumed yield on the actuarial value of assets was 8%.

**Supplemental Studies**

A. 5-year Deterministic Projection

Because the Plan is closed to new members, the amortization policy was changed to be level dollar effective January 1, 2008. In addition, the amount of payroll available to collect the amortization payments is expected to decrease as the population of the Plan turns over without being replaced. The net effect will be increases in the required employer contribution rate. The following exhibit provides an illustration of how the current valuation would expect the contribution rate to change over the next few valuations if there are no gains or losses.

| Year | Amortization<br>cost (\$000) | Expected<br>Salary(\$000) | Amortization<br>Payment% | Employer<br>NC% | Total Rate |
|------|------------------------------|---------------------------|--------------------------|-----------------|------------|
| 2012 | \$ 3,401                     | \$ 33,699                 | 10.09%                   | 18.45%          | 28.55%     |
| 2013 | 3,401                        | 33,546                    | 10.14%                   | 18.45%          | 28.59%     |
| 2014 | 3,401                        | 32,796                    | 10.37%                   | 18.45%          | 28.82%     |
| 2015 | 3,401                        | 31,940                    | 10.65%                   | 18.45%          | 29.10%     |
| 2016 | 3,401                        | 31,416                    | 10.83%                   | 18.45%          | 29.28%     |