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## Nebraska Public Employees Retirement Systems 2014

State Equal Retirement Benefit Fund Actuarial Valuation Results as of January 1, 2014 for State Fiscal Year ending June 30, 2015



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April 3, 2014

Public Employees Retirement Board Nebraska Public Employees Retirement Systems 1526 "K" Street
Suite 400
Lincoln, NE 68509-4816

## RE: Certification of Actuarial Valuation

 State Equal Retirement Benefit FundMembers of the Board:

At your request we have prepared an actuarial valuation of the State Equal Retirement Benefit Fund as of January 1, 2014 for the purpose of determining the funded status of the Plan and any required contribution for the plan year. Funding required from each participating State agency for current plan members, as approved by the Retirement Board, is equal to an amount necessary to fully fund the benefit obligation, or alternatively, an annual payment which would amortize the unfunded liability over a period of twenty years commencing January 1, 1999. There was no change to the actuarial assumptions or methods from the prior valuation.

This is the first actuarial valuation report prepared by Cavanaugh Macdonald Consulting, LLC (CMC). As part of our transition work, we replicated the January 1, 2013 actuarial valuation. Results were well within acceptable limits with only slight differences in the liabilities.

The actuarial valuation is based on unaudited financial data provided by the System and member data provided by the Ameritas Life Insurance Corporation, the record keeper for the Plan. We found this information to be reasonably consistent and comparable with the information used in the prior report. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. The benefits considered are those delineated in Nebraska State Statutes as of January 1, 2014.

We further certify that all costs, liabilities, rates of interest and other factors for the State Equal Retirement Benefit Fund have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Public Employees Retirement Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix B.

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Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

The consultants who worked on this assignment are pension actuaries. CMC's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in the report or to provide explanations or further details as may be appropriate.

We respectfully submit the following report and look forward to discussing it with you.
Respectfully submitted,


Patrice Beckham, FSA, FCA, EA, MAAA
Principal and Consulting Actuary


Brent Banister, PhD, FSA, FCA, EA, MAAA
Chief Pension Actuary

## Exhibit 1 - Summary of Actuarial Results and Contribution Alternatives

Below is a comparison of results of the current and prior years' actuarial valuations.

| Results | Actuarial Valuation as of January 1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2013 |  | 2014 |  |
| Number of Members |  |  |  |  |
| Cash Balance |  | 678 |  | 378 |
| Defined Contribution |  | 820 |  | 495 |
| Total |  | 1,498 |  | 1,332 |
| Pre-1984 Account Balance with Interest, Beginning of Year Cash Balance | Pre-1984 Account Balance with Interest, Beginning of Year | 28,701,787 |  | 4,271,957 |
| Defined Contribution |  | 31,900,868 |  | 1,622,176 |
| Total | \$ | 60,602,655 |  | 5,894,133 |
| Projected Benefit Cost* |  |  |  |  |
| a. Amount | \$ | 898,847 | \$ | 780,428 |
| b. As a percent of the account balance |  | 1.483\% |  | 1.396\% |
| Actuarial Value of Assets (Market Value) |  |  |  |  |
| a. Asset Value as of prior year's valuation | \$ | 483,304 | \$ | 495,876 |
| b. Deposits during the year |  | 83,822 |  | 83,340 |
| c. Withdrawals during the year |  | 130,678 |  | 86,719 |
| d. Investment Return or (Loss) |  | 58,741 |  | 87,974 |
| e. Expenses |  | 0 |  | 0 |
| f. Other |  | 687 |  | 0 |
| g. Actuarial Value of Assets as of Valuation Date [a.+b.-c.+d.-e.+f.] | \$ | 495,876 | \$ | 580,471 |
| Unfunded Liability/(Surplus) | \$ | 402,971 | \$ | 199,957 |
| Contribution Alternatives |  |  |  |  |
| Full contribution | \$ | 402,971 | \$ | 199,957 |
| 20 year amortization payment from January 1, 1999 | \$ | 83,340 | \$ | 47,928 |

*Cost is based on the assumption that $75 \%$ of members will elect a lump sum or installment payment instead of an annuity. To the extent that actual experience in the future deviates from this assumption, the costs in future years could vary as well, at times significantly.

## Summary of Member Data

| Age | Data |  | Gender |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range |  | Male |  | Female |  | Total |  |
| $\begin{gathered} \text { Less Than } \\ 40 \end{gathered}$ | Count of Members |  | 1 | 0 |  |  | 1 |
|  | Average of Total Balance | \$ | 5,945 | \$ | 0 | \$ | 5,945 |
|  | Sum of Total Balance | \$ | 5,945 | \$ | 0 | \$ | 5,945 |
| 40-44 | Count of Members |  | 0 |  | 2 |  | 2 |
|  | Average of Total Balance | \$ | 0 | \$ | 37,328 | \$ | 37,328 |
|  | Sum of Total Balance | \$ | 0 | \$ | 74,656 | \$ | 74,656 |
| 45-49 | Count of Members |  | 0 |  | 1 |  | 1 |
|  | Average of Total Balance | \$ | 0 | \$ | 5,998 | \$ | 5,998 |
|  | Sum of Total Balance | \$ | 0 | \$ | 5,998 | \$ | 5,998 |
| 50-54 | Count of Members |  | 0 |  | 2 |  | 2 |
|  | Average of Total Balance | \$ | 0 | \$ | 11,552 | \$ | 11,552 |
|  | Sum of Total Balance | \$ | 0 | \$ | 23,105 | \$ | 23,105 |
| 55-59 | Count of Members |  | 60 |  | 67 |  | 127 |
|  | Average of Total Balance | \$ | 2,322 | \$ | 2,358 | \$ | 2,341 |
|  | Sum of Total Balance | \$ | 139,304 | \$ | 157,977 | \$ | 297,281 |
| 60-64 | Count of Members |  | 354 |  | 319 |  | 673 |
|  | Average of Total Balance | \$ | 27,799 | \$ | 17,415 | \$ | 22,877 |
|  | Sum of Total Balance | \$ | 9,840,770 | \$ | 5,555,345 |  | 5,396,115 |
| 65-69 | Count of Members |  | 249 |  | 139 |  | 388 |
|  | Average of Total Balance | \$ | 85,429 | \$ | 38,274 | \$ | 68,536 |
|  | Sum of Total Balance |  | 21,271,778 | \$ | 5,320,100 |  | 6,591,878 |
| 70-74 | Count of Members |  | 56 |  | 33 |  | 89 |
|  | Average of Total Balance | \$ | 146,052 | \$ | 28,778 | \$ | 102,568 |
|  | Sum of Total Balance | \$ | 8,178,891 | \$ | 949,661 | \$ | 9,128,552 |
| 75+ | Count of Members |  | 23 |  | 26 |  | 49 |
|  | Average of Total Balance | \$ | 132,954 | \$ | 50,487 | \$ | 89,196 |
|  | Sum of Total Balance | \$ | 3,057,932 | \$ | 1,312,671 | \$ | 4,370,603 |
| Total Members |  |  | 743 |  | 589 |  | 1,332 |
| Total Average Balance |  | \$ | 57,193 | \$ | 22,750 | \$ | 41,963 |
| Grand Total Balance |  | \$ | 42,494,620 |  | 13,399,513 |  | 5,894,133 |

## Appendix A - Summary of Benefit Provisions

Member

Contributions

Eligibility for Benefits

## Benefit Amount

Cash Balance
Conversion

Any person employed by a State agency participating in either the Defined Contribution or Cash Balance Benefit under the State Employees Retirement System who has an accumulated account balance based on contributions which were made prior to January 1, 1984.

Each participating State agency shall make contributions to the fund on an actuarial basis as approved by the Retirement Board.

Any member who retires or terminates service and elects to convert to an annuity using their accumulated account balance, with interest, commencing on or after age 55, is eligible to receive a benefit from the fund.

The fund shall provide the Actuarially Equivalent amount required to purchase the additional monthly annuity, if any, which is equal to:
a. the income provided by the Member's accumulated contributions made prior to January 1, 1984 with interest, based on male annuity conversion factors in effect on the annuity starting date, less
b. the income provided by the Member's accumulated contributions made prior to January 1, 1984 with interest, which are based on $50 \%$ male / $50 \%$ female annuity conversion factors in effect on the annuity starting date.

Any member who elected to transfer his or her account balance to the Nebraska State Cash Balance Plan as of January 1, 2003 or as of January 2, 2013 will have his or her Benefit Amount determined using the annuity conversion interest rate applicable to the State Employees Retirement System (Cash Balance Benefit), which for 2014 is $7.75 \%$. Any other member will have his or her Benefit Amount determined using the annuity conversion interest rate applicable to the State Employees Retirement System (Defined Contribution Benefit), which for 2014 is $4.10 \%$.

## Changes in Benefit Provisions Since the Prior Year

There were no changes in the benefit provisions since the last valuation.

## Economic Assumptions

1. Investment Return
2. Consumer Price Inflation
3. Interest on accumulated contribution balances (contributions made before January 1, 1984)
4. COLA (optional purchase applicable to annuities)
7.75\% per annum, compounded annually, net of expenses.
$3.25 \%$ per annum, compounded annually.
7.75\% per annum, compounded annually.
2.5\% per annum, compounded annually.

## Demographic Assumptions

1. Mortality
a. Pre-retirement
b. Post-retirement
2. Retirement
3. Withdrawal
4. Disability

## Other Assumptions

1. Payment election

None.
1994 Group Annuity Mortality (based on Actuarial Equivalence definition in Statute).

Rates vary by age as follows:

| Age | State Annual <br> Rates |
| :---: | :---: |
| 55 | $5 \%$ |
| 56 | 5 |
| 57 | 5 |
| 58 | 5 |
| 59 | 5 |
| 60 | 5 |
| 61 | 8 |
| 62 | 15 |
| 63 | 10 |
| 64 | 15 |
| 65 | 25 |
| 66 | 25 |
| 67 | 25 |
| 68 | 25 |
| $69-79$ | 20 |
| 80 | 100 |

None.

None.
$75 \%$ of retiring members were assumed to elect a lump sum distribution or installment payment, and $25 \%$ of retiring members were assumed to elect an annuity form of distribution.
2. Form of Annuity Payment

Of members electing an annuity, 80\% of those members were assumed to elect a 5-year certain and life annuity without COLA, and $20 \%$ of those members were assumed to elect a 5year certain and life annuity with a 2.5\% annual COLA.

## Actuarial Methods

1. Funding Method

| Aggregate Actuarial Cost Method. The |
| :--- |
| present value of future benefits or |
| Projected Benefit Cost, less the |
| Actuarial Value of Assets, equals the |


| Unfunded Liability or Surplus. The |
| :--- |
| minimum recommended contribution is |
| equal to an annual amount necessary to |
| amortize the Unfunded Liability over |
| twenty years from January 1, 1999. |

2. Asset Valuation Method

Fair market value.

## Changes in Assumptions Since the Prior Valuation

No changes.

