# THE JUDICIAL RETIREMENT SYSTEM <br> OF NEW JERSEY <br> ANNUAL REPORT <br> OF THE ACTUARY <br> PREPARED AS OF JULY 1, 2001 

January 7, 2002

State House Commission
The Judicial Retirement System
of New Jersey
Trenton, New Jersey 08625

Members of the Commission:

The law governing the operation of The Judicial Retirement System of New Jersey provides for annual actuarial valuations of the System. The results of the July 1, 2001 valuation are submitted in this report which also includes a comparison with the preceding year's valuation.

The valuation shows the financial condition of the Plan as of July 1, 2001 and gives the basis for determining the required annual contribution for the plan year beginning July 1, 2001.

The valuation was prepared on the basis of the same actuarial assumptions as were employed for the previous valuation which include an interest rate of $8.75 \%$ per year.

The Table of Contents, which follows, highlights the Sections of the Report.
Respectfully submitted,
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# REPORT ON THE ANNUAL <br> VALUATION OF <br> THE JUDICIAL RETIREMENT SYSTEM <br> OF NEW JERSEY <br> PREPARED AS OF JULY 1, 2001 

## SECTION I - SUMMARY OF KEY RESULTS

The Judicial Retirement System of New Jersey became effective June 1, 1973. This report, prepared as of July 1, 2001, presents the results of the annual actuarial valuation of the Fund.

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized on the following pages.

| Valuation Date | July 1, 2001 |  | July 1, 2000 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of Members |  | 418 |  | 414 |
| Annual Compensation | \$ | 57,800,334 | \$ | 55,514,214 |
| Number of Retireds and Beneficiaries |  | 368 |  | 360 |
| Annual Allowances | \$ | 22,895,875 | \$ | 21,135,815 |
| Number of Vested Terminated Members |  | 2 |  | 2 |
| Annual Allowances | \$ | 51,425 | \$ | 51,425 |
| Assets |  |  |  |  |
| Market Value of Assets | \$ | 356,290,354 | \$ | 417,603,587 |
| Valuation Assets | \$ | 379,592,346 | \$ | 374,486,433 |
| Contribution Amounts |  |  |  |  |
| Normal Contribution | \$ | 8,467,287* | \$ | 0* |
| Accrued Liability Contribution |  | 0 |  | 0 |
| Total Contribution | \$ | 8,467,287 | \$ | 0 |

* Required contributions have been reduced by a portion of excess valuation assets (see Section III).

The major benefit and contribution provisions of the statute as reflected in the valuation are summarized in Appendix A. There were no changes from the provisions used in the previous valuation.

The actuarial assumptions and methods used for valuing the Fund are summarized in Appendix B. There were no changes in actuarial assumptions and methods since the previous valuation.

The combination of the plan provisions, actuarial assumptions and member and beneficiary data is used to generate the overall required level of State contributions. These contributions are composed of two separate portions, an "accrued liability contribution" and a "normal contribution". The required contribution is developed in Section III G.

The valuation generates a balance sheet which summarizes in some detail the total present and prospective assets and liabilities of the Fund. A summary comparison of the balance sheets as of July 1, 2000 and July 1, 2001 is set forth in the following table. The allocation of assets among the various investment alternatives is shown in graphic form on page 5 .

TABLE I
COMPARATIVE BALANCE SHEET

| ASSETS | \$ | 2001 | 2000 |  |
| :---: | :---: | :---: | :---: | :---: |
| Actuarial value of assets of Fund |  | 379,592,346 | \$ | 374,486,433 |
| Unfunded accrued liability/(surplus) |  | $(6,832,277)$ |  | $(23,566,088)$ |
| Total Assets | \$ | 372,760,069 | \$ | 350,920,345 |
| LIABILITIES |  |  |  |  |
| Present value of benefits to present beneficiaries payable from the Retirement Reserve Fund | \$ | 203,748,939 | \$ | 186,912,561 |
| Present value of benefits to present active members |  | 169,011,130 |  | 164,007,784 |
| Total Liabilities | \$ | 372,760,069 | \$ | 350,920,345 |



## SECTION II - EMPLOYEE DATA

The data employed for the valuations were furnished to the actuary by the Division of Pensions and Benefits. The following summarizes and compares the Fund membership as of July 1, 2000 and July 1, 2001 by various categories.

## ACTIVE MEMBERSHIP

| Group | 2001 |  | 2000 |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Number | Annual <br> Compensation | Number | Annual <br> Compensation |
|  | 326 | $\$ 45,074,474$ | 328 | $\$$ |
| $43,958,402$ |  |  |  |  |
| Women | 92 | $\$ 12,725,860$ | 86 | $\$$ |
| $11,555,812$ |  |  |  |  |

## RETIRED MEMBERS AND BENEFICIARIES

| GROUP | 2001 |  |  | 2000 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Annual Allowances |  | Number | Annual Allowances |  |
| Deferred Terminated Vesteds | 2 | \$ | 51,425 | 2 | \$ | 51,425 |
| Service Retirements | 234 |  | 19,015,378 | 226 | \$ | 17,384,467 |
| Disability Retirements | 7 |  | 515,460 | 7 | \$ | 504,201 |
| Beneficiaries | 127 | \$ | 3,365,037 | 127 | \$ | 3,247,147 |

Appendix C provides a detailed distribution between groups.

Graphic presentations of the statistical data on membership for the five preceding years are shown on the following pages.

## THE JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY

SUMMARY OF ACTIVE PARTICIPATION



## SECTION III - ASSETS, LIABILITIES AND CONTRIBUTIONS

## A. Market Value of Assets as of June 30, 2001

1. Assets

| a. | Cash | $\$$ | $1,500,722$ |
| :--- | :--- | ---: | ---: |
| b. | Investment Holdings |  | $354,185,707$ |
| c. | Interest Receivable on Investments | $1,449,337$ |  |
| d. | Employers' Contributions Receivable | 0 |  |
| e. | Members' Contributions Receivable |  | 59,958 |
| f. | Loans Receivable | 621,156 |  |
| g. | Dividends Receivable | 487,286 |  |
| h. | Accounts Receivable - Other |  | 167,884 |
| i. | Interest Receivable - Member Loans | 588 |  |
| j. | Total | $\$$ | $358,472,638$ |

2. Liabilities

| a. | Pension Payroll Payable | $\$$ | $1,472,963$ |
| :--- | :--- | :--- | ---: |
| b. | Accounts Payable and Accrued Expense |  | 709,321 |
| c. | Total | $\$$ | $2,182,284$ |
| Market | Value of Assets as of June 30, 2001: $1(\mathrm{j})-2(\mathrm{c})$ | $\$$ | $356,290,354$ |

B. Reconciliation of Market Value of Assets: June 30, 2000 to June 30, 2001

1. Market Value of Assets as of June 30, 2000
\$ 417,603,587
2. Increases
a. Members' Contributions
\$ 1,818,915
b. State Appropriations
c. Employers' Contributions -

Transfer from other Systems
d. Investment Income
e. Total
3. Decreases
a. Withdrawal of Members
\$ 10,714
b. NCGI Premium Expense 671,038
c. Administrative Expenses 33,078
d. Benefit Payments

19,744,958
e. COLA Benefit Programs
f. Total
4. Receivable Employer Contributions
5. $\quad$ Market Value of Assets as of June 30, 2001:
$1+2(e)-3(f)+4$
\$ 356,290,354

## C. Development of Actuarial Value of Assets as of July 1, 2001

Chapter 115, P.L. 1997 revalued the actuarial value of plan assets to market for the July 1, 1996 valuation. Beginning with the July 1, 1997 valuation, the five-year average of market value with write-up was used. The following summary shows the development of the actuarial value of plan assets for the current valuation.

1. Actuarial Value of Assets as of July 1, 2000
2. Net Cash Flow excluding investment income
3. Receivable Employer Contributions
4. Expected Investment Income at $8.75 \%$

| a. | Interest on assets as of July 1, 2000 | $\$$ | $32,767,563$ |
| :--- | :--- | :--- | ---: |
| b. | Interest on Net Cash Flow | $(915,288)$ |  |
| c. | Total | $\$$ | $31,852,275$ |

5. Expected Actuarial Value of Assets as of July 1, 2001:
6.     + 2.             + 3.                     + 4.(c)
\$ 385,417,844
1. $20 \%$ of Difference from Market Value of Assets
2. Actuarial Value of Assets as of July 1, $2001=5 .+6$.
\$ 379,592,346

## D. Present Value of Projected Benefits as of July 1, 2001

1. Retirees and Beneficiaries
a. Service Retirement
b. Disability Retirement
c. Beneficiaries
d. Lump Sum Death Benefits
e. Total
2. Terminated Vested Members
3. Active Participants
a. Service Retirement
b. Disability Retirement
c. Spousal Annuity Death Benefit (Pre-Retirement)
d. Lump Sum Death Benefit*
e. Total
4. Total Actuarial Accrued Liability: 1(e) + $2+3(\mathrm{e})$
\$ 171,429,196
3,364,524
26,014,479
2,534,703
\$ 203,342,902
\$ 406,037
\$ 156,482,673
6,388,021
4,641,771
1,498,665
\$ 169,011,130
\$ 372,760,069
*Excludes lump sum death benefits payable during active service.

## E. Development of Excess Valuation Assets

Chapter 115, P.L. 1997 prescribed the procedure for determining the value of excess valuation assets. This law provided for a reduction in the normal contributions for the valuation periods ended June 30, 1996 and June 30, 1997 to the extent possible by the excess valuation assets and permitted the State Treasurer to reduce the normal contribution payable by the State for valuations after June 30, 1997 up to a specified portion of excess valuation assets. The development of excess valuation assets for the current valuation is developed below:

1. Valuation Assets
2. Actuarial Accrued Liability
3. Excess Valuation Assets $=1 .-2$.
F. Development of Normal Cost as of July 1, 2001
4. Service Retirement
5. Disability Retirement
6. Spousal Annuity Death Benefit (Pre-Retirement)
7. Lump Sum Death Benefit*
8. Term Cost Lump Sum Death Benefit During Active Service
9. Total
\$ 13,646,597
881,206
625,036 136,969
\$ 379,592,346

| $372,760,069$ |
| :--- |

\$ 6,832,277

588,240
\$ 15,878,048
*Excludes lump sum death benefits payable during active service.

## G. Development of State Contributions

1. Present Value of Benefits
2. Actuarial Value of Assets
\$ 372,760,069
3. Unfunded Actuarial Accrued

Liability/(Surplus) = 1. - 2 .
4. Amortization Period
5. Amortization of Unfunded Actuarial

Accrued Liability payable July 1, 2002
6. (a) Gross Normal Cost
(b) Expected Member Contributions
(c) State Normal Cost = (a) - (b)
(d) State Normal Cost payable July 1, 2002 $=(\mathrm{c}) * 1.0875$
\$ 15,897,388
(e) Excess Valuation Assets*
(f) State Net Normal Cost payable July 1, 2002 $=(\mathrm{d})-(\mathrm{e})$
7. Total Required Contribution as of July 1, $2002=5 .+6$.(f)
*Excess Valuation Assets are allocated as follows:

1. Excess Valuation Assets (from Section E)
2. Excess Valuation Assets as of July 1, 2002 = 1. * 1.0875
3. Reduction Due to Normal Contribution for the Valuation Period ending June 30, 2001 payable July 1, 2002

7,430,101
4. Net Excess Valuation Assets After Reductions as of July 1, 2002 = 2. - 3.

## SECTION IV - COMMENTS CONCERNING THE VALUATION

The variation in liabilities and contributions reflects the System's actual experience during the year. The System experienced a net actuarial loss during the year that ended June 30, 2001.

The loss is primarily due to an actual return on System assets less than that expected. For valuation purposes, an $8.75 \%$ per annum rate of return was assumed. The actual return on the Fund's actuarial value of assets was approximately $7.15 \%$ for the period from July 1, 2000 through June 30, 2001. There was also an offsetting gain due to experience among active and retired participants.

The following shows the development of the actuarial experience and identifies the major experience components:

## A. Calculation of Actuarial Experience for the Year Ended June 30, 2001

1. Unfunded Accrued Liability as of July 1, 2000
2. Gross Normal Cost as of July 1, 2000
\$ (23,566,088)
15,403,006
3. Interest on (1) and (2)
4. Actual Members' Contributions Received 1,818,915
5. Employers' Contributions (including receivable and transfers from other funds)
6. Interest on Contributions (excluding receivables)
7. Expected Unfunded Accrued Liability as of July 1, 2001 $=(1)+(2)+(3)-(4)-(5)-(6)$
8. Actual Unfunded Accrued Liability as of July 1, 2001
\$
$(10,956,994)$
9. Actuarial (Gain)/Loss $=(8)-(7)$
\$
4,124,717

## B. Components of Actuarial Experience

1. Investment (Gain)/Loss \$ 5,825,498
2. Other (Gain)/Loss, including mortality, cost of living adjustments less than expected and changes in employee data $\quad(1,700,781)$
3. Total Actuarial (Gain)/Loss \$ 4,124,717

## SECTION V - ACCOUNTING INFORMATION

Statement No. 5 of the Governmental Accounting Standards Board, issued November 1986, established standards of disclosure of pension information by public retirement systems. Statement No. 25 of the Governmental Accounting Standards Board, issued November 1994, established financial reporting standards for defined benefit pension plans and for the notes to the financial statements of defined contribution plans of state and local governmental liabilities and superseded Statement No. 5 effective for periods beginning after June 15, 1996. Statement No. 27, Accounting for Pensions by State and Local Governmental Employers superseded Statement 5 for employers participating in pension plans and is effective for periods beginning after June 15, 1997.

The information required by Statements No. 25 and No. 27 is presented in the following tables. These include the development of the Annual Required Contribution (ARC), the development of the Net Pension Obligation (NPO), the Schedule of Funding Progress and the Schedule of Employer Contributions.

## (A) Development of the Annual Required Contribution (ARC) as of June 30, 2003:

1. Actuarial Value of Plan Assets as of June 30, 2001
(a) Valuation Assets as of June 30, 2001
(b) Adjustment for Receivable Contributions included in (a)
(c) Valuation Assets as of June 30, 2001 for GASB Disclosure = (a) - (b)
\$ 379,592,346
2. Actuarial Accrued Liability as of June 30, 2001
for GASB Disclosure
\$ 372,760,069
\$ $(6,832,277)$
3. Amortization of Unfunded Actuarial Accrued Liability/(Surplus) over 31 years
4. Normal Cost as of June 30, 2001
5. Annual Required Contribution as of June 30, 2003
(a) Annual Required Contribution as of June 30, 2001 $=4 .+5$.
(b) Interest Adjustment to June 30, 2003
(c) Annual Required Contribution as of June 30, 2003 = (a) + (b)
(B) Development of the Net Pension Obligation (NPO) as of June 30, 2003:
6. Annual Required Contribution as of June 30, 2003
7. Interest on Net Pension Obligation
8. Adjustment to Annual Required Contribution
\$ 16,913,237
9. Annual Pension Cost $=1 .+2 .+3$.
10. Expected Employer Contributions for Fiscal Year 2003
11. $\quad$ Increase in Net Pension Obligation $=4 .-5$.
12. Net Pension Obligation at June 30, 2002
13. Net Pension Obligation at June 30, 2003
$=6 .+7$.
$(4,564,979)$
2,634,311
\$ 14,982,569
\$ 8,467,286
\$ 6,515,283
(52,171,192)
\$ $(45,655,909)$

## (C) Schedule of Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets <br> (a) | Actuarial <br> Accrued <br> Liability <br> (b) | Unfunded <br> Actuarial <br> Accrued <br> Liability (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | Unfunded <br> Actuarial Accrued <br> Liability as a Percentage of Covered Payroll $\frac{\text { (b-a) }}{\text { c }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6/30/1996 | \$ 283,199,734 | \$ 283,199,734 | \$ 0 | 100.0\% | \$ 47,587,950 | 0.0\% |
| 6/30/1997 | \$ 317,289,094 | \$ 295,150,638 | \$ $(22,138,456)$ | 107.5\% | \$ 46,912,950 | (47.2)\% |
| 6/30/1998 | \$ 333,437,794 | \$ 305,779,217 | \$ $27,658,577)$ | 109.0\% | \$ 48,196,350 | (57.4)\% |
| 6/30/1999 | \$ 352,858,160 | \$ 313,873,659 | \$ (38,984,501) | 112.4\% | \$ 48,886,350 | (79.7)\% |
| 6/30/2000 | \$ 374,486,433 | \$ 350,920,345 | \$ (23,566,088) | 106.7\% | \$ 55,514,214 | (42.5)\% |
| 6/30/2001 | \$ 379,592,346 | \$ 372,760,069 | \$ $(6,832,277)$ | 101.8\% | \$ 57,800,334 | (11.8)\% |

(D) Schedule of Employer Contributions

| Fiscal Year | Annual Required <br> Contribution | Employer <br> Contribution | Percentage <br> Contributed |  |
| :---: | :---: | :---: | ---: | :---: |
| 1998 | $\$$ | $14,658,095$ | $\$$ | $13,478,708$ |
| 1999 | $\$$ | $13,416,851$ | $\$$ | 0 |

(E) The information presented in the required supplementary schedules was determined as part of the actuarial valuation. Additional information follows:

## Valuation Date

Actuarial Cost Method
Amortization Method
Remaining Amortization Period
Asset Valuation Method
Actuarial Assumptions: Investment Rate of Return
Projected Salary Increases Cost of Living Adjustments

June 30, 2001
Projected Unit Credit
Level Dollar, closed
31 years
Five Year Average of Market Value
8.75\%
5.95\%
$60 \%$ of the maximum of the CPI increase and 4.0\%

## SECTION VI - LEVEL OF FUNDING

Although the value of accrued benefits and the funding ratios shown in the previous section are required for the State's financial statements, it is instructive to also look at these values under an alternative approach. For this purpose, we are presenting liabilities determined on a Financial Accounting Standards Board Statement No. 87 Accumulated Benefit Obligation (ABO) basis. This is the same approach as that used for the GASB Actuarial Accrued Liability except that no assumption is made as to future salary increases.

| Actuarial present value of accumulated benefits: <br> Vested benefits Participants currently receiving payments Other participants | June 30, 2001 |  | June 30, 2000 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | \$ | $\begin{array}{r} 203,342,902 \\ 63,559,405 \\ \hline \end{array}$ | \$ | $\begin{array}{r} 186,540,969 \\ 57,998,520 \end{array}$ |
|  | \$ | 266,902,307 | \$ | 244,539,489 |
| Non-vested benefits |  | 41,625,092 |  | 43,151,335 |
| Total | \$ | 308,527,399 | \$ | 287,690,824 |
| Assets at market value | \$ | 356,290,354 | \$ | 417,603,587 |
| Ratio of Assets to Total Present Value |  | 115.5\% |  | 145.2\% |

The actuarial present value of vested and non-vested accrued benefits was based on an interest rate of $8.75 \%$ for both 2000 and 2001.

# APPENDIX A <br> BRIEF SUMMARY OF THE BENEFIT AND CONTRIBUTION PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES 

## Eligibility for Membership

Chief Justice and associate justices of the Supreme Court, judges of the Superior Court and tax courts of the State of New Jersey.

## 1. Definitions

Plan Year The 12-month period beginning on July 1 and ending on June 30.
Service A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which member did not receive annual salary of at least $\$ 500$, shall be excluded.

Annual salary received by the member at the time of retirement or other termination of service. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code).

Accumulated Deductions

Retirement Allowance

Service Retirement

## 2. Benefits

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

Pension derived from contributions of the State plus the annuity derived from employee contributions.
(A) Mandatory retirement at age 70. Voluntary retirement prior to age 70 as follows:
(a) Age 70 and 10 years of judicial service;
(b) Age 65 and 15 years of judicial service; or
(c) Age 60 and 20 years of judicial service.

Benefit is an annual retirement allowance equal to $75 \%$ of final salary.
(B) Age 65 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service; or

Age 60 while serving as a judge, 5 consecutive years of judicial service and 20 years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 50\% of final salary.
(C) Age 60 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service. Benefit is an annual retirement allowance equal to $2 \%$ of final salary for each year of public service up to 25 years plus $1 \%$ of final salary for each year in excess of 25 years.
(D) Age 60 while serving as a judge. Benefit is an annual retirement allowance equal to $2 \%$ of final salary for each year of judicial service up to 25 years plus $1 \%$ for each year in excess of 25 years.

Early Retirement

Vested Termination

Death Benefits
Before Retirement

Death of an active member of the plan. Benefit is equal to:
(a) Lump sum payment equal to $1-1 / 2$ times final salary, plus
(b) Spousal life annuity of $25 \%$ of final salary plus $10 \%$ (15\%) to one (two or more) surviving children payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, a total of $15 \%(20 \%, 30 \%)$ of final salary payable to one (two, three or more) dependent child (children). If there is no surviving spouse (or dependent children), $20 \%$ or $30 \%$ of final salary to one or two dependent parents.

| After Retirement | Death of a retired member of the plan. Benefit is equal to: <br> (a) Lump sum of $25 \%$ of final salary for a member retired under normal or early retirement. If a member were receiving a disability benefit, a lump sum 1-1/2 times final salary if death occurred before the member attained age 60 and $1 / 4$ times final salary if death occurred after age 60. <br> (b) Spousal life annuity of $25 \%$ of final salary plus $10 \%$ ( $15 \%$ ) to one (two or more) surviving children payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, a total of $15 \%(20 \%, 30 \%)$ of final salary payable to one (two, three or more) dependent child (children). |
| :---: | :---: |
| Disability Retirement | Physically or otherwise incapacitated for the full and efficient service to State in his judicial capacity and such incapacity is likely to be permanent. Benefit is an annual retirement allowance of $75 \%$ of final salary. |
| Member Contributions | Any member enrolled prior to January 1, 1996 contributes $3 \%$ of the difference between current salary and salary for that position on January 18, 1982. Members enrolled on and after January 1, 1996 contribute $3 \%$ of their full salary. |

## APPENDIX B

## OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

VALUATION INTEREST RATE: 8.75\% per annum, compounded annually.

COLA: $4.0 \%$ per annum, compounded annually. The COLA is $60 \%$ of the cumulative increase.
SALARY INCREASES: Salaries are assumed to increase by $5.95 \%$ per year for inflation.
DISABILITY: The assumed rate of disability varies by age, as illustrated below:

| Age | Disabilities Per 1,000 Lives |
| :---: | :---: |
|  |  |
| 30 | 0.22 |
| 35 | 0.26 |
| 40 | 0.33 |
| 45 | 0.64 |
| 50 | 1.14 |
| 55 | 1.97 |
| 60 | 3.26 |
| 65 | 4.73 |

MORTALITY: It was assumed that mortality would follow the 1983 Group Annuity Mortality Table except for retired males, male beneficiaries and disabled lives. For retired males and male beneficiaries, the 1983 Group Annuity Mortality table for males with ages set back 3 years was used. For disabled lives, the 1983 Group Annuity Table for males with ages set forward 7 years was used for both males and females.

RETIREMENT: It was assumed that the probability of retirement at age 65 for those judges who have 12 or more years of judicial service at age 65 is at $25 \%$ per year. In addition, retirement for members who have attained age 60 with 20 years of judicial service or attained age 65 with 15 years judicial service is at $30 \%$ at age 60, $25 \%$ at age 65 and $10 \%$ for all other ages between ages 60 and 70. At age 70, all remaining active members are assumed to retire.

VALUATION METHOD: Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions.

HEALTH INSURANCE BENEFITS: Retiree Health Insurance benefits are funded by the State on a pay-as-you-go basis and are not included in the actuarial valuation.

ASSET VALUATION METHOD: A five year average of market values with write-up was used. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.

## APPENDIX C

TABULATIONS USED AS A BASIS FOR THE 2001 VALUATION

The following table gives a reconciliation of data from July 1, 2000 to June 30, 2001. Tables are also given showing the distribution of active members' salaries by age and length of service as of July 1, 2001 and showing the number and retirement allowances of beneficiaries classified by age as of July 1, 2001.

TABLE 1
RECONCILIATION OF DATA FROM JULY 1, 2000 TO JUNE 30,2001

| Members as of July 1, 2000 | Actives |  | Deferred Vested | Retirees |  |  |  | Beneficiaries | Dependents | Domestic Relations Beneficiaries | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Contrib. | Noncontrib. |  | Service | Special | Deferred | Disabled |  |  |  |  |
|  | 409 | 5 | 2 | 220 | 2 | 4 | 7 | 119 | 6 | 2 | 776 |
| Status Change: |  |  |  |  |  |  |  |  |  |  |  |
| To Contributing <br> To Noncontributing | 2 -1 | -2 1 |  |  |  |  |  |  |  |  | 0 |
| New Deferred Vested |  |  |  |  |  |  |  |  |  |  |  |
| New Terminated Non-Vested | -1 |  |  |  |  |  |  |  |  |  | -1 |
| New Service Retirement | -20 | -1 |  | 21 |  |  |  |  |  |  | 0 |
| New Special Retirement |  |  |  |  |  |  |  |  |  |  |  |
| New Deferred Vesteds Now Payable |  |  |  |  |  |  |  |  |  |  |  |
| New Disabled |  |  |  |  |  |  |  |  |  |  |  |
| New Death | -2 |  |  | -12 |  | -1 |  | -10 |  |  | -25 |
| New Beneficiaries |  |  |  |  |  |  |  | 10 |  |  | 10 |
| End of Payments |  |  |  |  |  |  |  |  |  |  |  |
| New Actives | 28 |  |  |  |  |  |  |  |  |  | 28 |
| Rehires |  |  |  |  |  |  |  |  |  |  |  |
| Data Corrections |  |  |  |  |  |  |  |  |  |  |  |
| Members as of June 30, 2001 | 415 | 3 | 2 | 229 | 2 | 3 | 7 | 119 | 6 | 2 | 788 |

TABLE 2

DISTRIBUTION OF ACTIVE MEMBERS BY AGE AND SERVICE

| SERVICE AGE | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $20 \begin{array}{ll}\text { Number } \\ & \text { Salary }\end{array}$ |  |  |  |  |  |  |  |  |  |
| $25 \begin{aligned} & \text { Number } \\ & \text { Salary }\end{aligned}$ |  |  |  |  |  |  |  |  |  |
| $30 \quad \begin{aligned} & \text { Number } \\ & \\ & \text { Salary }\end{aligned}$ |  |  |  |  |  |  |  |  |  |
| $35 \begin{aligned} & \text { Number } \\ & \\ & \text { Salary }\end{aligned}$ |  |  |  |  |  |  |  |  |  |
| 40Number <br>  <br> Salary | $\begin{array}{r} 5 \\ 700,851 \end{array}$ | $\begin{array}{r} 1 \\ 137,165 \end{array}$ |  |  |  |  |  |  | $\begin{array}{r} 6 \\ 838,016 \end{array}$ |
| $45 \begin{aligned} & \text { Number } \\ & \text { Salary }\end{aligned}$ | $\begin{array}{r} 13 \\ 1,798,171 \end{array}$ | $\begin{array}{r} 15 \\ 2,057,475 \end{array}$ | $\begin{array}{r} 9 \\ 1,234,485 \end{array}$ |  |  |  |  |  | $\begin{array}{r} 37 \\ \mathbf{5 , 0 9 0 , 1 3 1} \\ \hline \end{array}$ |
| 50 Number Salary | $\begin{array}{r} 15 \\ 2,057,475 \end{array}$ | $\begin{array}{r} 20 \\ 2,743,300 \end{array}$ | $\begin{array}{r} 44 \\ 6,054,139 \end{array}$ | $\begin{array}{r} 1 \\ 137,165 \end{array}$ |  |  |  |  | $\begin{array}{r} 80 \\ 10,992,079 \end{array}$ |
| $55 \begin{array}{ll}\text { Number } \\ \text { Salary }\end{array}$ | $\begin{array}{r} 13 \\ 1,783,145 \end{array}$ | $\begin{array}{r} 30 \\ 4,114,950 \end{array}$ | $\begin{array}{r} 37 \\ 5,097,179 \end{array}$ | $\begin{array}{r} 18 \\ 2,507,890 \end{array}$ | $\begin{array}{r} 7 \\ 968,578 \end{array}$ |  |  |  | $\begin{array}{r} 105 \\ 14,471,742 \end{array}$ |
| 60Number <br> Salary | $\begin{array}{r} 10 \\ 1,371,650 \\ \hline \end{array}$ | $\begin{array}{r} 12 \\ 1,645,980 \\ \hline \end{array}$ | $\begin{array}{r} 30 \\ 4,137,024 \\ \hline \end{array}$ | $\begin{array}{r} 31 \\ 4,304,686 \\ \hline \end{array}$ | $\begin{array}{r} 22 \\ 3,064,973 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ 1,017,296 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 112 \\ 15,541,609 \\ \hline \end{array}$ |
| 63 Number | $\begin{array}{r} 2 \\ 289,356 \end{array}$ | $\begin{array}{r} 8 \\ 1,125,212 \end{array}$ | $\begin{array}{r} 10 \\ 1,376,878 \end{array}$ | $\begin{array}{r} 12 \\ 1,668,054 \end{array}$ | $\begin{array}{r} 4 \\ 557,083 \end{array}$ | $\begin{array}{r} 2 \\ 287,981 \end{array}$ | $\begin{array}{r} 4 \\ 562,311 \end{array}$ |  | $\begin{array}{r} 42 \\ 5,866,875 \end{array}$ |
| 66 and Number over Salary |  | $\begin{array}{r} 3 \\ 411,495 \end{array}$ | $\begin{array}{r} 10 \\ 1,371,650 \end{array}$ | 9 $1,245,676$ | 8 $1,105,743$ | 3 421,951 | 3 443,367 |  | $\begin{array}{r} 36 \\ 4,999,882 \end{array}$ |
| TOTAL Number Salary | $\begin{array}{r} \hline 58 \\ 8,000,648 \\ \hline \hline \end{array}$ | $\begin{array}{r} 89 \\ 12,235,577 \\ \hline \end{array}$ | $\begin{array}{r} 140 \\ 19,271,355 \\ \hline \end{array}$ | $\begin{array}{r} 71 \\ 9,863,471 \\ \hline \end{array}$ | $\begin{array}{r} 41 \\ 5,696,377 \\ \hline \hline \end{array}$ | $\begin{array}{r} 12 \\ 1,727,228 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ 1,005,678 \\ \hline \end{array}$ |  | $\begin{array}{r} 418 \\ 57,800,334 \\ \hline \end{array}$ |

TABLE 3

## THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE <br> AS OF JUNE 30, 2001

|  | MEN |  |  | WOMEN |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | NUMBER |  | AMOUNT | NUMBER |  | AMOUNT |
| 39 |  |  |  | 1 | \$ | 137,165 |
| 41 |  |  |  | 1 |  | 137,165 |
| 42 | 1 | \$ | 152,191 | 1 |  | 137,165 |
| 43 | 3 |  | 411,495 | 1 |  | 137,165 |
| 44 | 3 |  | 411,495 | 2 |  | 274,330 |
| 45 | 3 |  | 411,495 | 4 |  | 548,660 |
| 46 | 3 |  | 411,495 | 5 |  | 685,825 |
| 47 | 2 |  | 274,330 | 6 |  | 838,016 |
| 48 | 8 |  | 1,097,320 | 4 |  | 548,660 |
| 49 | 10 |  | 1,371,650 | 3 |  | 419,918 |
| 50 | 13 |  | 1,783,145 | 2 |  | 274,330 |
| 51 | 14 |  | 1,925,538 | 6 |  | 822,990 |
| 52 | 10 |  | 1,371,650 | 10 |  | 1,376,878 |
| 53 | 15 |  | 2,057,475 | 7 |  | 960,155 |
| 54 | 18 |  | 2,491,044 | 2 |  | 282,753 |
| 55 | 13 |  | 1,788,373 | 3 |  | 419,918 |
| 56 | 22 |  | 3,026,053 | 3 |  | 411,495 |
| 57 | 17 |  | 2,348,651 | 3 |  | 411,495 |
| 58 | 17 |  | 2,340,228 | 5 |  | 685,825 |
| 59 | 27 |  | 3,747,603 | 4 |  | 563,686 |
| 60 | 22 |  | 3,056,550 | 3 |  | 419,918 |
| 61 | 18 |  | 2,494,239 | 2 |  | 274,330 |
| 62 | 16 |  | 2,228,332 | 2 |  | 279,558 |
| 63 | 10 |  | 1,390,529 | 5 |  | 694,248 |
| 64 | 12 |  | 1,679,885 | 1 |  | 137,165 |
| 65 | 13 |  | 1,783,145 | 2 |  | 293,799 |
| 66 | 6 |  | 848,259 | 1 |  | 137,165 |
| 67 | 12 |  | 1,659,631 | 1 |  | 145,588 |
| 68 | 7 |  | 995,435 |  |  |  |
| 69 | 8 |  | 1,105,743 |  |  |  |
| 70 | 3 |  | 411,495 | 2 |  | 270,495 |
| TOTAL | 326 | \$ | 45,074,474 | 92 | \$ | 12,725,860 |

Of the 418 active members included in the June 30, 2001 valuation data, 135 are vested and 283 have not yet completed the vesting service requirement.

## TABLE 4

## THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY SERVICE <br> AS OF JUNE 30, 2001

| YEARS | MEN |  |  | WOMEN |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OF |  |  |  |  |  |  |
| SERVICE | NUMBER | AMOUNT |  | NUMBER | AMOUNT |  |
| 0 | 8 | \$ | 1,097,320 | 3 | \$ | 411,495 |
| 1 | 17 |  | 2,346,831 | 7 |  | 975,181 |
| 2 | 18 |  | 2,483,996 | 5 |  | 685,825 |
| 3 | 13 |  | 1,783,145 | 7 |  | 960,155 |
| 4 | 15 |  | 2,065,898 | 12 |  | 1,645,980 |
| 5 | 9 |  | 1,234,485 | 2 |  | 293,799 |
| 6 | 23 |  | 3,154,795 | 3 |  | 411,495 |
| 7 | 2 |  | 274,330 | 3 |  | 411,495 |
| 8 | 19 |  | 2,606,135 | 10 |  | 1,380,073 |
| 9 | 28 |  | 3,854,271 | 5 |  | 691,053 |
| 10 | 28 |  | 3,871,117 | 5 |  | 685,825 |
| 11 | 9 |  | 1,234,485 | 2 |  | 274,330 |
| 12 | 26 |  | 3,576,746 | 8 |  | 1,097,320 |
| 13 | 13 |  | 1,796,796 | 2 |  | 282,753 |
| 14 | 12 |  | 1,651,208 | 2 |  | 287,981 |
| 15 | 17 |  | 2,353,879 | 1 |  | 137,165 |
| 16 | 2 |  | 282,753 | 5 |  | 690,413 |
| 17 | 14 |  | 1,969,028 | 3 |  | 411,495 |
| 18 | 9 |  | 1,239,713 | 3 |  | 411,495 |
| 19 | 7 |  | 968,578 |  |  |  |
| 20 | 15 |  | 2,099,590 | 1 |  | 145,588 |
| 21 | 3 |  | 419,918 |  |  |  |
| 22 | 2 |  | 274,330 | 1 |  | 137,165 |
| 23 | 3 |  | 425,146 | 1 |  | 152,191 |
| 24 | 3 |  | 436,764 |  |  |  |
| 25 | 4 |  | 570,734 |  |  |  |
| 26 |  |  |  |  |  |  |
| 27 | 1 |  | 142,393 |  |  |  |
| 28 | 5 |  | 714,502 | 1 |  | 145,588 |
| 29 | 1 |  | 145,588 |  |  |  |
| TOTAL | 326 | \$ | 45,074,474 | 92 | \$ | 12,725,860 |

Of the 418 active members included in the June 30, 2001 valuation data, 135 are vested and 283 have not yet completed the vesting service requirement.

TABLE 5

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2001

SERVICE RETIREMENTS

MEN

| AGE | NUMBER |  | AMOUNT | NUMBER |  | AMOUNT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 |  |  |  |  |  |  |
| 61 | 2 | \$ | 209,188 |  |  |  |
| 62 | 3 |  | 221,537 |  |  |  |
| 63 |  |  |  |  |  |  |
| 64 | 8 |  | 652,607 |  |  |  |
| 65 | 6 |  | 550,990 | 1 | \$ | 96,483 |
| 66 | 8 |  | 640,141 |  |  |  |
| 67 | 9 |  | 791,046 | 1 |  | 109,410 |
| 68 | 7 |  | 564,717 |  |  |  |
| 69 | 10 |  | 826,287 |  |  |  |
| 70 | 9 |  | 854,012 | 1 |  | 37,868 |
| 71 | 18 |  | 1,699,401 | 1 |  | 99,997 |
| 72 | 16 |  | 1,352,288 | 1 |  | 89,336 |
| 73 | 9 |  | 693,130 | 2 |  | 171,501 |
| 74 | 12 |  | 1,053,300 |  |  |  |
| 75 | 14 |  | 1,107,847 |  |  |  |
| 76 | 7 |  | 586,034 |  |  |  |
| 77 | 17 |  | 1,350,885 |  |  |  |
| 78 | 10 |  | 841,212 |  |  |  |
| 79 | 4 |  | 339,090 | 1 |  | 85,956 |
| 80 | 12 |  | 906,252 | 1 |  | 77,602 |
| 81 | 6 |  | 462,323 |  |  |  |
| 82 | 5 |  | 344,892 |  |  |  |
| 83 | 4 |  | 287,802 |  |  |  |
| 84 | 5 |  | 338,167 |  |  |  |
| 85 | 6 |  | 375,703 |  |  |  |
| 86 | 5 |  | 316,253 |  |  |  |
| 87 | 2 |  | 134,526 |  |  |  |
| 88 |  |  |  |  |  |  |
| 89 | 1 |  | 75,288 |  |  |  |
| 90 | 4 |  | 271,791 |  |  |  |
| 91 | 2 |  | 126,081 |  |  |  |
| 92 | 2 |  | 143,690 |  |  |  |
| 93 | 1 |  | 69,387 |  |  |  |
| 94 | 1 |  | 61,358 |  |  |  |

TOTAL 225
\$ 18,247,225
9
\$ 768,153

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2001

DISABILITY RETIREMENTS

## MEN

| AGE | NUMBER |  | AMOUNT | NUMBER | AMOUNT |
| :---: | :---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |
| 65 | 1 | $\$$ | 71,925 |  |  |
| 67 | 1 |  | 82,886 |  |  |
| 75 | 2 |  | 142,290 |  |  |
| 77 | 1 |  | 73,710 |  |  |
| 81 | 1 |  | 60,096 |  |  |
| 91 | 1 |  | 64,553 |  |  |
|  |  | $\$$ | 515,460 |  |  |
| TOTAL | 7 |  |  |  |  |

# THE NUMBER AND ANNUAL RETIREMENT <br> ALLOWANCES OF BENEFICIARIES DISTRIBUTED <br> BY AGE AS OF JUNE 30, 2001 

ACTIVE MEMBERS' DEATH BENEFITS

MEN

| AGE | NUMBER | AMOUNT | NUMBER | AMOUNT |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 62 |  |  | 1 | \$ | 23,403 |
| 64 |  |  | 3 |  | 84,321 |
| 65 |  |  | 2 |  | 59,130 |
| 66 |  |  | 1 |  | 28,652 |
| 67 |  |  | 2 |  | 57,407 |
| 68 |  |  | 2 |  | 56,476 |
| 70 |  |  | 2 |  | 51,711 |
| 72 |  |  | 2 |  | 55,856 |
| 77 |  |  | 1 |  | 23,403 |
| 80 |  |  | 1 |  | 21,248 |
| 81 |  |  | 2 |  | 45,450 |
| 83 |  |  | 1 |  | 21,315 |
| 84 |  |  | 2 |  | 40,839 |
| 87 |  |  | 1 |  | 24,114 |
| 91 |  |  | 1 |  | 23,446 |
| TOTAL |  |  | 24 | \$ | 616,771 |

TABLE 8

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES DISTRIBUTED

BY AGE AS OF JUNE 30, 2001

RETIRED MEMBERS' DEATH BENEFITS


THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2001

DEFERRED TERMINATED VESTEDS

|  | MEN |  |  |  | WOMEN |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | NUMBER |  | AMOUNT | NUMBER | AMOUNT |
| 56 | 2 | $\$$ | 51,425 |  |  |
| TOTAL | 2 | $\$$ | 51,425 |  |  |

