Charles G. Hall
F.C.A., M.A.A.A., A.S.A.

Enrolled Actuary

1624 LaSalle Parc
Baton Rouge, La. 70806
(225) 928-7866

September 5, 2003

Board of Trustees
LOUISIANA STATE EMPLOYEES'
RETIREMENT SYSTEM
Post Office Box 44213
Baton Rouge, Louisiana 70804-4213

Ladies and Gentlemen:

This report presents the results of the actuarial valuation of assets and liabilities, as well as funding requirements, for the Louisiana State Employees' Retirement System as of June 30, 2003.

This report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of my knowledge, fairly reflects the actuarial present value of accrued benefits of the Louisiana State Employees' Retirement System.

In preparing this valuation, $I$ have relied upon the information provided regarding plan provisions, plan membership, plan assets and other matters as detailed in the exhibits of this report. In particular, I have relied upon the statement of assets as audited by Postlethwaite \& Netterville, Certified Public Accountants.

The present values shown herein have been calculated on the basis of the actuarial cost methods as specified in Louisiana Revised Statutes Title 11 Section 22(6). The Actuarial Assumptions, which have been approved by the Board of Trustees, are appropriate for the purposes of this valuation, are reasonable in the aggregate, and when applied in combination represents my best estimates of the anticipated experience under the plan.

Board of Trustees

## LASERS

September 5, 2003

A brief summary of the more important figures developed in this valuation, with comparable results from previous valuations are as follows:

## June 30, 2003

--------Prior Years--------
June 30, 2002 June 30, 2001
I. Membership Census

| $1)$ Retirees | 34,074 | 33,132 | 32,292 |
| :--- | ---: | ---: | ---: |
| 2) Actives | 65,441 | 64,692 | 64,519 |
| 3) DROP | 2,768 | 2,635 | 2,365 |

II. Annual Benefits
III. Total Payroll
\$ 491, 416,716
$1,924,680,579$
$6,462,850,028$
$-634,512,981$
3.83\%
-3.63\%

286,610, 069
14.89\%

3,333,456, 048
$66.0 \%$
VI. Investment Yield Market Value Actuarial Value
VII. Cost to Fund Annual Pension Accruals (Normal Costs)
VIII. Unfunded Actuarial

Accrued Liability
IX. Funded Percentage
X. Funding Requirements to Pay (Mid-year payment)

1) Employee Contribution Rate
2) Employer Contribution Rate - Current Year
3) Projected Employer Contribution - Next Year
-5.63\%
-4.40\%

277, 099, 192
14.88\%

260,560,598
\$ 466,719,066 \$ 437,190,173
$1,861,887,735 \quad 1,782,884,536$
$6,342,414,880$
6,294,673,646
$-270,929,581$
184, 023,157
$151,583,873$

343,474,885
17.4\%

348,115,129
17.2\%

147,682,661 7.684\%

298, 168, 077
15.5\%

312,108,688
15.8\%

267, 823, 237
14.1\%

The above funding requirements measure the cost of benefits that were in effect on June 30, 2003, plus Acts of the 2003 Legislative Session which have prospective effects on current active members. Board of Trustees
LASERS

September 5, 2003

## Current Funding

The Actuarial Valuation for the plan year ending June 30, 2003 discloses an expected increase in the value of the plan's unfunded accrued liability as well as prospective funding requirements. It is generally appropriate for the current valuation process to disclose the source or cause of any significant changes in the plan from year to year. Changes that occur are usually the result of changes in actuarial assumptions, gains or losses resulting from actual experience which differs significantly from expected plan experience.

The basic elements of the annual required contribution are the normal cost and amortization of the Unfunded Actuarial Liability (UAL). The normal cost is the annual cost to provide an additional year of benefit accrual. The normal cost is divided into two parts, the employee portion and the employer portion, both expressed as a percentage of payroll. Act 81 of the 1988 Legislative Session provides for the amortization of the initial UAL, plus subsequent changes in benefits, methods or gain/loss experience.

To assist the Board of Trustees in reconciling changes in the unfunded actuarial accrued liability, the following gain/loss analysis is presented as follows:

## CHANGE IN UNFUNDED LIABILITY

Unfunded Liability 6/30/2002

## INCREASES

| Interest on Unfunded Liability | $\$ 236,306,355$ |
| :--- | ---: |
| Experience Account Allocation | $-373,419,794$ |
| Assumption Changes | $21,541,026$ |
| Experience Loss | $90,851,805$ |
| Investment Loss | $746,839,587$ |
| Incurred Increases |  |

## DECREASES

Employer Amtz. Payment
Texaco Transfer
Employer Credit
Incurred Decreases

Unfunded Liability 6/30/2003
\$ 2, 864, 319, 460

$$
\begin{array}{r}
\$ 236,306,355 \\
-373,419,794 \\
21,541,026 \\
90,851,805 \\
746,839,587 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
180,522,037 \\
89,200,275 \\
-16,739,921 \\
\hline
\end{array}
$$

252, 982, 391

Board of Trustees LASERS
September 5, 2003

The employer contribution rate established by the Public Retirement Systems' Actuarial Committee for the 2003-2004 plan year was 15.8\%. The actual employer contribution rates determined by this valuation for the current plan year is 17.4\%. The current adjusted rate is greater than the required employer's contributions when compared to the projected rates. Since the contribution rate is attributable to many factors, the following sections address the source and respective impact to the required employer contribution rate.

## Actuarial Assets/Valuation Assets

The Actuarial Value of assets represents the gross actuarial assets determined in accordance with the methodology set forth in Exhibit 6 to fund all liabilities of the pension plan as well as side-fund accounts dedicated for other programs. The Asset Valuation Method utilizes a four year weight average of the unrealized gain/loss in the value of all assets at market. The Valuation Assets exclude the side-fund accounts for purposes of determining the employer contribution rate as illustrated on page 12 of Exhibit 2.

The side-fund accounts excluded are as follows:

- Texaco Settlement Fund: The purpose of this fund is to accumulate Texaco settlement contributions as a separate account invested at LASERS' actuarial rate of return. Once the accumulated value of the account equals the outstanding balance of the initial unfunded actuarial liability, the account and initial liability will be liquidated. At the end of the 2003 fiscal year $\$ 89,200,275$ was distributed to liquidate the outstanding balance of the LSU unfunded liability. The current account balance is $\$ 24,687,820$.
- Experience Account Fund: The purpose of this fund is to accumulate 50\% of the excess investment gain or loss relative to the actuarial valuation rate of 8.25\%. The account can be used to fund retiree COLA's. The benefit granted must fund $100 \%$ of actuarial cost. The current balance is $\$-634,512,981$.

The negative Experience Account balance presents some serious funding issues. Sound actuarial funding standards, without regard to statutory requirements, would require the balance to be set at zero for funding purposes. Liquidating the balance would increase the contribution rate by $1.9 \%$.

## Investment Experience

The investment yield on the actuarial value of assets during the recent past has been as follows for plan years ending June 30:

| 2001 | 2002 | 2003 | 3 Yr . Aver | $5 \mathrm{Yr} . \mathrm{Aver}$. | 10 Yr . Aver |
| :---: | :---: | :---: | :---: | :---: | :---: |
| . $37 \%$ | -4.40\% | -3.63\% | -2.57\% | 3.54\% | $7.46 \%$ |

Board of Trustees LASERS
September 5, 2003

The net actuarial rate of return assumed in the valuation was $8.25 \%$. For the plan year ending June 30, 2003, the net realized actuarial rate of return was less than the longterm investment assumption used to project benefits. The result was a net investment experience loss of $\$ 746,839,587$ below projected investment income.

## Plan Experience

The actuary is charged with making the best estimate of future plan experience to properly fund future benefits. If the actual experience differs from the projected plan experience, a gain or loss occurs. This gain or loss is then amortized over the later of the year 2029 or a fifteen year period to make a mid-course adjustment in future funding requirements. During the 2002-2003 plan year, the system incurred a $\$ 90,851,805$ experience loss from sources other than investments.

## Funding as a Percentage of Payroll

The funding requirements mandated by Act 81 require the employee to contribute $7.5 \%$ of payroll for the plan year beginning in 1989. The employer will pay a percentage of the normal cost plus a dollar amount sufficient to amortize the unfunded liability over a 40 year period. However, in no event can the employer contribution rate drop below 12\% without regard to employer credits without a corresponding adjustment to the employee contribution rate. To convert the dollar amortization payment to a percentage of payroll would suggest that the aggregate employer contribution rate would remain level as a percentage of pay provided aggregate salaries increase in unison with the rate of increase in annuity payments. This would imply that aggregate salaries should increase at a rate of at least $4.5 \%$ during the next twenty-seven (27) years. To determine whether this is a reasonable expectation, aggregate salary growth during the past ten (10) years is illustrated as follows:

| June 30 | Payroll/\$1000 |  |
| :---: | :---: | :---: |
| 1993 | $1,504,147$ | Percent Increase |
| 1994 | $1,546,465$ | $6.2 \%$ |
| 1995 | $1,547,977$ | $2.8 \%$ |
| 1996 | $1,584,357$ | $0.1 \%$ |
| 1997 | $1,607,371$ | $2.4 \%$ |
| 1998 | $1,653,863$ | $1.5 \%$ |
| 1999 | $1,736,963$ | $2.9 \%$ |
| 2000 | $1,820,132$ | $5.0 \%$ |
| 2001 | $1,782,884$ | $4.8 \%$ |
| 2002 | $1,861,887$ | $-2.0 \%$ |
| 2003 | $1,924,680$ | $4.4 \%$ |
|  |  | $3.4 \%$ |

Board of Trustees

## LASERS

September 5, 2003
During the last ten (10) years the aggregate salaries have increased at an annualized rate of $2.5 \%$. If this trend continues, the percentage of pay required to amortize the unfunded liability can be expected to slightly increase in the absence of other experience gains or losses.

## Experience Study

During the May 31, 2002 Board Meeting, the results of the five year Experience Study covering the period beginning on July 1, 1996 and ending on June 30, 2001 was presented to the Board of Trustees. Misclassification of data resulted in some modifications to the original report which were disclosed at the June 27, 2003 Board Meeting, but are still pending review by the Legislative Actuary. The results and recommendations of the report are reflected in this valuation increasing the actuarial accrued liability \$21,541,026.

## Comments and Disclosures

Exhibit 3, "Pension Accounting and Financial Disclosure", contains disclosure of the accrued liabilities under the Entry Age Normal Actuarial Cost Method required by the Governmental Accounting Standards Board Statement No. 25.

The format of this report was designed with the intent of highlighting the pertinent results of the valuation's funding requirements. Should you have any questions or comments, please do not hesitate to contact me.

Sincerely,
Shahs G. Nan
Charles G. Hall, FCA, MAAA, ASA
Actuary

Enclosure

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## EXHIBIT 1

## DEVELOPMENT OF COSTS, LIABILITIES AND CONTRIBUTIONS

Normal Costs and Accrued Liabilities are calculated in accordance with the Projected Unit Credit Cost Method, and the Actuarial Assumptions outlined in Exhibit 6 based on the Provisions of the Plan as summarized in Exhibit 5.
I. Normal Costs

| June | 30, 2003 |
| :--- | :--- |
| Do |  |
| Amount | Salary |


| -- Prior <br> June 30, Year--- |  |
| :---: | :---: |
| 2002 |  |
| Dollar | $\%$ of |
| Amount | Salary |

Active Members with Complete Data
a) Retirement Benefits

$$
\$ \quad 215,059,325
$$

b) Disability Benefits
c) Survivor Benefits
d) Voluntary Termination
e) Expenses

TOTAL

$$
\begin{array}{rrr}
\$ & 223,512,262 & 11.61 \% \\
5,600,179 & .29 \% \\
12,240,267 & .64 \% \\
35,257,361 & 1.83 \% \\
10,000,000 & .52 \% \\
\hline 286,610,069 & 14.89 \%
\end{array}
$$

11.54\%

9,595,547 .52\%
12,388,321 .67\%
31, 755,999
1.70\%
$\frac{8,300,000}{277,099,192} \quad \frac{.45 \%}{14.88 \%}$
II. Actuarial Accrued Liability
a) Active Members

1) Retirement Benefits
2) Disability Benefits
3) Survivor Benefits
4) Voluntary Termination

$$
\begin{array}{rr}
3,541,988,446 & 3,339,909,702 \\
78,088,087 & 133,049,885 \\
128,122,102 & 129,396,082 \\
327,129,955 & 205,932,482 \\
\hline 4,075,328,590 & 3,808,288,151
\end{array}
$$

b) Retired and Inactive Members

1) Regular Retirees
2) Disabled Retirees
3) Survivors
4) Vested Deferred
5) Contributions Refunded
6) DROP Deferred Benefits
7) DROP Account Balances
c) SUB TOTAL

$$
\begin{array}{r}
3,646,186,560 \\
113,207,142 \\
439,989,301 \\
66,591,513 \\
34,076,836 \\
957,776,782 \\
374,422,462 \\
\hline 5,632,250,596
\end{array}
$$

$$
9,707,579,186
$$

3,425,665, 005 110, 424, 334 435, 656,589
65, 027, 229
30,520,512
871,146,309
367,540,856
5,305,980,834
9,114, 268,985

## Exhibit 1 (Continued)

## Costs, Liabilities \& Contributions

II. Actuarial Accrued Liability
c) SUB TOTAL (Preceding page)

June 30, 2003

```
---Prior Year---
    June 30, 2002
```

\$ 9, 114, 268, 985

83, 877,557
$\begin{array}{r}8,587,798 \\ \hline 9,206,734,340\end{array}$
$6,342,414,880$
$2,864,319,460$
506, 402, 370
68.9\%
b) Funded Percentage

469, 136, 588
$66.0 \%$
V. Employer Contributions

To Fund Current Plan Year ${ }^{1}$
a) Employer Portion of Normal Cost
b) Amortization Payments

$$
\begin{gathered}
131,930,424 \\
206,920,823 \\
4,519,403 \\
\hline 343,370,650 \\
17.4 \%
\end{gathered}
$$

0
15.8\%
6.6877\%
VI. Projected Employer Contributions

To Fund Next Plan Year ${ }^{1}$
a) Employer Portion of Normal Cost
b) Amortization Payments
c) Prior Contribution Variance TOTAL Projected Contribution Plus State Appropriation
VII. Current Payroll

Projected Payroll - Mid Year
Projected Payroll - Next Year

135,154, 866
207, 243,766
5,647,571
348,046,203
17.2\%

0
1,924,680,579
1,972,720, 892
2, 020, 935, 123

133,796,581
177,848,982
463,125
$312,108,688$ 15.8\%

5, 357, 033

1,861,887,735
1, 921, 950, 301
1, 981, 315, 249

[^0]
## EXHIBIT 2

FINANCIAL SUMMARY

## STATEMENT OF REVENUES AND EXPENSES

FOR FISCAL YEAR ENDING

June 30, 2003

## OPERATING REVENUES:

1. Contribution Income

Member
Employer
ORP
2. Other Income

Legislative Appropriations
Miscellaneous
TOTAL CONTRIBUTIONS
3. Investment Income

Investments
Less, investment expenses
TOTAL INVESTMENT INCOME
4. Total Revenues

## OPERATING EXPENSES:

1. General Administration

Other Expenses
2. Benefits Paid
a) Pension Benefits
b) Return of Contrib. TOTAL BENEFITS PAID
3. Total Operating Expenses

NET INCOME:

$$
-16,901,210
$$

$$
212,851,563
$$

10, 196,507
1,632,930
$\begin{array}{r}544,009,581 \\ 25,043,817 \\ \hline 569,053,398\end{array}$
$580,882,835$

98, 865,745
8, 315,745
7,644,231
4,943,827
6, 228,406
\$ 151, 350, 321 256, 079,880

241, 424

$$
\begin{array}{r}
4,714,958 \\
9,702,327 \\
\hline 422,088,910
\end{array}
$$

\$ 144, 603, 488 245, 213, 071 199, 648

$$
-325,607,247
$$

$$
-17,213,862
$$

$$
-342,821,109
$$

$$
79,267,801
$$

$$
-7,002,648
$$

$$
\begin{array}{r}
4,881,115 \\
9,863,204 \\
\hline 56,897,017
\end{array}
$$

$$
229,752,773
$$

679,748,580

$$
1,03<, 930
$$

498, 392, 717
452, 637, 691
$31,391,355$
$529,784,072$$\frac{36,147,087}{488,784,778}$
$543,043,644$
$502,657,415$
$-463,775,843-509,660,063$

## EXHIBIT 2 (Continued)

## Financial Summary

# FINANCIAL SUMMARY STATEMENT OF ASSETS FOR FISCAL YEAR ENDING 

| June 30, 2003 | June 30, 2002 | $\begin{aligned} & \text { Years--------- } \\ & \text { June 30, } 2001 \end{aligned}$ |
| :---: | :---: | :---: |
| \$ 91,561,494 | \$ 30,376,173 | \$ 76,140, 068 |
| 172,524,924 | 72,507,610 | 110, 091,497 |
| 590, 911, 229 | 528,483,359 | 491, 890, 992 |
| 11,636,121 | 43, 965, 839 | 43, 848,701 |
| 84,270,277 | 66,783,822 | 45, 475, 052 |
| 1,221,989, 099 | 1,311,167,557 | 1,258, 956,320 |
| 2,370,603,802 | 2,355,436, 090 | 2,601, 718,165 |
| 848,776,994 | 822,500, 042 | 905, 856, 177 |
| 3,501,906 | 7,920,353 | 11,318,406 |
| 5,657,742 | 6,155,527 | 5,936,957 |
| 326,129,911 | 320,770, 281 | 380,168, 063 |
| -8,819,519 | 53,811,581 | 152,253,680 |
| 5,718,743,979 | 5,619,878,234 | 6, 083, 654, 078 |
| 5,813,983,564 | 5,954, 335,016 | 6, 088, 049,624 |

## INVESTMENT YIELD:

| Yield to Actuarial Value | $-3.63 \%$ | $-4.40 \%$ | $.37 \%$ |
| :--- | :--- | :--- | :--- |
| Five Year Actuarial Value | $3.54 \%$ | $6.88 \%$ | $10.72 \%$ |
| Yield to Market Value | $3.83 \%$ | $-5.63 \%$ | $-6.25 \%$ |
| DROP Account Yield | $0.00 \%$ | $0.00 \%$ | $-.13 \%$ |

## EXHIBIT 2 (Continued)

Financial Summary

## FINANCIAL SUMMARY STATEMENT OF ASSETS FOR FISCAL YEAR ENDING

## ACTUARIAL VALUE OF ASSETS:

TOTAL ASSETS
Change in Unrealized (G/L)
Plan Year - 2 (wt. 1/4)
Plan Year - 1 (wt. 2/4)
Plan Year (wt. 3/4)
Actuarial Value of Assets

June 30, 2003

$$
-594,652,672
$$



June 30, 2002

June 30

$$
-330,061,237
$$

$$
239,217,198
$$

$$
5,853,024,867
$$

\$ 5,619,878,234 \$ 6,083,654,078

| $-99,654,016$ | $-91,395,071$ |
| ---: | ---: |
| $-594,652,672$ | $-99,654,016$ |
| $-330,061,237$ | $-594,652,672$ |
| $6,189,664,001$ | $6,602,319,358$ |

## TEXACO SETTLEMENT FUND:

```
    Prior Year Ending Balance
+ Current Year Allocation
\[
+\quad \text { Accumulated Interest }
\]
+ Accumulated Interest
Fund Balance - Year End
    Fund Balance - Year End
\[
\begin{array}{r}
118,178,702 \\
-89,200,275 \\
-4,290,607 \\
\hline 24,687,820
\end{array}
\]
```

$$
\begin{array}{r}
123,622,555 \\
0 \\
-5,443,853 \\
\hline 118,178,702
\end{array}
$$

$$
123,166,577
$$

455,978
$123,622,555$

## EXPERIENCE ACCOUNT FUND:

Prior Year Ending Balance

+ Experience Account Allocation
- Benefit Disbursements
+ Accumulated Interest
Fund Balance - Year End

$$
\begin{array}{r}
-270,929,581 \\
-373,419,794 \\
0 \\
9,836,394 \\
\hline-634,512,981
\end{array}
$$

| $184,023,157$ |
| ---: |
| $-394,359,141$ |
| $52,489,937$ |
| $-8,103,660$ |
| $-270,929,581$ |

507, 541, 113
-236, 334, 026
89, 062,912
1,878,982
184, 023, 157

## DEVELOPMENT OF ACTUARIAL

VALUATION ASSETS
Total Actuarial Value of Assets Adjusted for:
Texaco Settlement Fund Experience Account Fund Valuation Assets
$6,189,664,001$
$6,602,319,358$

$$
\begin{array}{r}
-118,178,702 \\
270,929,581 \\
\hline 6,342,414,880
\end{array}
$$

$$
\begin{array}{r}
-123,622,555 \\
-184,023,157 \\
\hline 6,294,673,646
\end{array}
$$

## EXHIBIT 3

## PENSION ACCOUNTING <br> AND <br> FINANCIAL DISCLOSURE

The Governmental Accounting Standards Board (GASB) was established as an arm of the Financial Accounting Foundation in April, 1984 by amendment to the Foundation's certificate of incorporation and by-laws. GASB's objective is to promulgate standards of financial accounting and reporting relative to the activities and transactions of state and local governmental entities. The following disclosures and statistical tables are in accordance with the GASB's Statement No. 25.

## SCHEDULE OF FUNDING PROGRESS <br> (Dollar amounts in thousands)

| Actuarial | Actuarial Value of | Actuarial Accrued | Unfunded AAL | Funded | Covered | UAAL as a Percentage of |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Valuation | Assets ${ }^{1}$ | Liability (AAL) | $(\mathrm{UAAL})^{\mathbf{1}}$ | Ratio | Payroll | Payroll |
| Date | (a) | (b) | ( $\mathrm{b}-\mathrm{a}$ ) | (a/b) | (c) | ( $(\mathrm{b}-\mathrm{a}) / \mathrm{c})$ |
| 1994 | 3,347,602 | 5,403,394 | 2,055,792 | 61.9 | 1,546,465 | 132.9 |
| 1995 | 3,665,863 | 5,696,909 | 2,031,046 | 64.3 | 1,547,977 | 131.2 |
| 1996 | 4,114,461 | 6,254,405 | 2,139,944 | 65.8 | 1,584,357 | 135.1 |
| 1997 | 4,537,917 | 6, 489,361 | 1,951,444 | 69.9 | 1,607,371 | 121.5 |
| 1998 | 5, 067,795 | 6,953, 096 | 1,885,301 | 72.9 | 1,653,863 | 114.0 |
| 1999 | 5,574,958 | 7,582,856 | 2,007,898 | 73.5 | 1,736,963 | 115.6 |
| 2000 | 6,170,978 | 8,257,313 | 2, 086,335 | 74.7 | 1,820,132 | 114.6 |
| 2001 | 6,418,296 | 8,652,591 | 2,234,295 | 74.2 | 1,782,884 | 125.3 |
| 2002 | 6,460,594 | 9,206,734 | 2,746,140 | 70.2 | 1,861,887 | 147.5 |
| 2003 | 6,487,538 | 9,796,306 | 3,308,768 | 66.2 | 1,924,680 | 171.9 |

The total actuarial accrued liability determined using the Projected Unit Credit cost method increased by $\$ 589,571,736$ from June 30, 2002 to June 30, 2003. There was a net experience loss of $\$ 485,812,592$ after allocating $\$ 373,419,794$ of deficit investment income to the Experience Account in accordance with Act 1031.
${ }^{1}$ UAAL differs from the UFAL for funding purposes. UFAL for funding purposes excludes Texaco Settlement Fund Assets which appears on page 5.

## EXHIBIT 3 (Continued)

Pension Accounting \& Financial Disclosure

## SUPPLEMENTARY INFORMATION

## SCHEDULE OF EMPLOYER CONTRIBUTIONS

| Fiscal Year | Actuarial Required Contribution | Percent Contributed | Annual Pension Cost (APC) | Actual Contribution | Percentage of APC <br> Contributed | Net <br> Pension Obligation* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1994 | 189,566,536 | 98.7 | 191,589,377 | 187, 058,006 | 97.6 | - 2,254,901 |
| 1995 | 196, 931, 081 | 103.5 | 198, 321,499 | 203, 773, 245 | 102.7 | - 8,113,103 |
| 1996 | 203, 762,677 | 99.3 | 206,878,066 | 202, 316,644 | 97.8 | - 4,036,582 |
| 1997 | 212, 221, 189 | 98.4 | 214,971,990 | 208, 924,646 | 97.2 | 1,922, 284 |
| 1998 | 221, 933, 246 | 104.9 | 221, 250,489 | 232,843,174 | 105.2 | -9,670,401 |
| 1999 | 226,387,848 | 102.1 | 228,233, 262 | 231, 043, 705 | 101.2 | -12,480,844 |
| 2000 | 250,678,505 | 99.8 | 254,123,833 | 250,143, 249 | 98.4 | -8,500, 260 |
| 2001 | 258, 281, 738 | 100.7 | 260,125,807 | 260, 029, 744 | 100.0 | -8,404,197 |
| 2002 | 279, 119, 335 | 97.2 | 281, 791, 315 | 271,339,452 | 96.3 | 2,047,670 |
| 2003 | 326, 335, 197 | 94.8 | 328,772,738 | 309, 595, 244 | 94.1 | 21, 225,164 |

Analysis of the percentage contributed over a period of years will give a relative indication of the funding progress for the liabilities of the Louisiana State Employees' Retirement System.

The difference between the Actuarial Required Contribution and the APC is the amortization payment for the Net Pension Obligation (see Exhibit A).

## DEVELOPMENT OF NET PENSION OBLIGATION

(1) Actuarial Required Contribution
(2) Interest on Net Pension Obligation
(3) Amortization of Net Pension Obligation
(4) Annual Pension Cost (1)+(2)-(3)
(5) Employer Contribution
(6) Increase (decrease) in Net Pension Obligation
(7) Net Pension Obligation Beginning of Year
(8) Net Pension Obligation End of Year (6)+(7)

$$
\begin{array}{r}
326,335,197 \\
168,933 \\
-2,268,608 \\
\hline 328,772,738 \\
309,595,244 \\
19,177,494 \\
2,047,670 \\
21,225,164
\end{array}
$$

## EXHIBIT 3 (Continued)

## Pension Accounting \& Financial Disclosure

## STATISTICAL DATA

## COMPARATIVE SUMMARY OF REVENUES BY SOURCE AND EXPENSES BY TYPE

## Revenues by Source

| Fiscal Year | Members |
| :---: | :---: |
| Year | Contribution |
| 1994 | 118,255,907 |
| 1995 | 123,370, 058 |
| 1996 | 126, 073, 816 |
| 1997 | 126,793,791 |
| 1998 | 129,724,456 |
| 1999 | 135,479, 230 |
| 2000 | 147, 090, 812 |
| 2001 | 144, 603,488 |
| 2002 | 151, 350, 321 |
| 2003 | 159,469, 854 |


| Employer Contribution ${ }^{1}$ | Investment Income |
| :---: | :---: |
| 227,669,691 | 238,487,231 |
| 217,590,817 | 317, 004, 128 |
| 236,967,776 | 328,419, 628 |
| 213,885,597 | 485, 694, 849 |
| 229,834,528 | 464, 769, 328 |
| 228,104,989 | 470, 204, $750{ }^{2}$ |
| 244,763,341 | 665, 087, 756 |
| 257, 315,718 | -408, 921,854 |
| 270,738,589 | -342,821,109 |
| 307,427,163 | 212,851,563 |

## Total

584,412,829
657,965,003
691, 461, 220
826,374, 237
824,328, 312
833,788,969
1, 056, 941,909
-7,002,648
79,267,801

679,748,580

## Expenses by Type

Fiscal

| Year |  | Benefits |
| ---: | ---: | ---: |
| 1994 |  | $275,503,281$ |
| 1995 |  | $288,641,870$ |
| 1996 |  | $317,340,115$ |
| 1997 |  | $340,052,578$ |
| 1998 |  | $359,625,826$ |
| 1999 |  | $397,966,405$ |
| 2000 |  | $424,142,312$ |
| 2001 |  | $452,637,691$ |
| 2002 |  | $498,392,717$ |
|  |  |  |
| 2003 |  | $544,009,581$ |

Refunds
$23,955,748$
$25,072,191$
$27,222,153$
$28,945,409$
$32,156,373$
$31,851,567$
$32,300,258$
$36,147,087$
$31,391,355$
$25,043,817$

| Administrative <br> Expenses ${ }^{3}$ | Total |
| :---: | :---: |
| $5,724,497$ | $305,183,526$ |
| $6,465,576$ | $320,179,637$ |
| $6,668,955$ | $351,231,223$ |
| $6,773,908$ | $375,771,895$ |
| $9,205,446$ | $400,987,645$ |
| $8,789,889$ | $438,607,861$ |
| $10,242,213$ | $466,684,783$ |
| $13,872,637$ | $502,657,415$ |
| $13,259,572$ | $543,043,644$ |
|  |  |
| $11,829,437$ | $580,882,835$ |

${ }^{1}$ Includes transfers and purchases and the annual employer contribution.
${ }^{2}$ Prior to 6/30/99, reported realized investment income. A change in Asset Valuation Method now reports realized and unrealized investment income at market (see Exhibit 6).
${ }^{3}$ Includes other expenses, not related to the administration of daily operation.

## EXHIBIT 4

## CENSUS DATA

The data contained in this valuation is summarized on the following pages with exceptions noted below. The profile depicted in the cellular graphs represents "error-free data," which serves as the basis for determining costs and liabilities. Active members are allocated to cells based upon attained age and years of service. Retirees and Survivors are allocated to cells based upon attained age and years elapsed since retirement or commencement of benefits.

The validity of the results of any actuarial valuation is dependent upon the accuracy of the data base. Prior to processing, suspicious data and data containing errors were purged from the data base and processed separately based on the following error types:

```
-missing sex code
-missing or invalid date of birth
-missing or invalid date of employment
-missing or invalid salary
-invalid retirement dates.
```

There were numerous records purged from the data base containing errors or categorized as suspicious data which is not necessarily significant. These records had the basic characteristic of a terminated non-vested participant which have balances of $\$ 50$ or less in their accumulated employee contribution account. Suspicious data are not necessarily errors, but data which falls outside the parameters of the editing process for further checking. There were 30,940 records for terminated non-vested members due a refund.

Salary data contained in the profiles and valuation report exceed the amount reported by internal audit due to salary annualization. In the valuation process, membership data with fractional service in the first year of employment annualizes the salary. The following is a summary by plan of the data submitted for valuation:

|  | $-\mathbf{- 2 0 0 3 - -}$ <br> Census | $-\mathbf{- 2 0 0 2 - - -}$ <br> Census |
| :--- | ---: | ---: |
| Active Members | 65,441 | 64,692 |
| Regular Retirees | 26,275 | 25,436 |
| Disability Retirees | 1,220 | 1,208 |
| Survivors | 5,262 | 5,243 |
| Vested \& Reciprocals | 1,317 | 1,245 |
| Due Refunds | 30,940 | 29,579 |
| DROP Participants | 2,768 | 2,635 |
| TOTAL |  |  |
|  |  | 133,223 |

## EXHIBIT 5

## PRINCIPLE PROVISIONS OF THE PLAN (Including Acts of 2003 Regular Session)

## EFFECTIVE DATE:

July 1, 1947; last amendment date - July 1, 2003.

## EMPLOYEE:

Any person legally occupying a position in the state service.

## EMPLOYER:

The State of Louisiana or any of its boards, commissions, departments, agencies and courts which are contributing members and those approved for membership by the legislature from which any employee receives his compensation.

## ELIGIBILITY FOR

## PARTICIPATION:

Condition of employment in state service except the following: elected or appointed officials or employees who are contributing members of any other state system; public officials and state employees who receive a per diem in lieu of compensation; persons employed prior to $1 / 1 / 73$ who work on a part-time basis and elect not to participate; patient or inmate help in state charitable, penal or correctional institutions; part-time students, interns and resident physicians; independent contractors; employees who are age 60 or older at time of employment; retirees of the retirement system who return to work under certain conditions; judges who failed to elect membership prior to 10/2/76; civilian employees who on 11/1/81 were within five years of retirement eligibility in the Federal Civil Service Retirement and Disability Fund; teachers employed after 9/10/82; nurses employed from employment pools at state charity hospitals; temporary, seasonal, part-time employees of DOTC, or as defined in federal law.

## SERVICE:

Service as an "Employee", defined above.

## CREDITABLE SERVICE:

For service prior to January 1, 1973: 1/4 year granted for each 89 day interval of service, not to exceed 1 credit per fiscal year. Minimum 50 days required for 1st Quarter credit.

For service on or after January 1, 1973, a member shall receive credit based on the ratio of actual pay to the annual base per calendar year. Fractional service shall be rounded to the next highest 1/10th, not to exceed 100 percent per year.

## EXHIBIT 5 (Continued)

## Principle Provisions

## ADDITIONAL

## CREDITABLE SERVICE:

1. Credit for service canceled by withdrawal of accumulated contributions may be restored by member by paying into system the amount withdrawn plus interest at the Actuarial Valuation rate.
2. Maximum of 4 years of credit for military service may be obtained for each member with at least 2 years service, contingent on payment of Actuarial Cost.
3. Credit for educational leave or any period of training, up to a maximum of three years, for which a stipend was paid and the member was bound to return to the employ and does return to the employ of such agency.
4. Credit for service which was classified as a job appointment or emergency appointment not to exceed 2 years credit.
5. At retirement, all accumulated unused sick and annual leave shall be credited based on the following schedule:

| 1 | -26 Days | $10 \%$ of a Year |
| ---: | ---: | ---: |
| 27 | -52 Days | $20 \%$ of a Year |
| $53-78$ Days | $30 \%$ of a Year |  |
| $79-104$ Days | $40 \%$ of a Year |  |
| $105-130$ Days | $50 \%$ of a Year |  |
| $131-156$ Days | $60 \%$ of a Year |  |
| $157-182$ Days | $70 \%$ of a Year |  |
| $183-208 ~ D a y s ~$ | $80 \%$ of a Year |  |
| $209-234 ~ D a y s ~$ | $90 \%$ of a Year |  |
| $235-260 ~ D a y s ~$ | $100 \%$ of a Year |  |

Actuarial Equivalent Lump-sum is available after August 15, 1993.

## EARNABLE COMPENSATION:

The base pay earned by an employee for a given pay period as reported by the employing agency including the full amount earned, expense allowances, overtime paid to employees of the legislative branch, per diem paid to members of the legislature, the clerk or sergeant-at-arms of the house and the president and secretary of the senate.

## AVERAGE FINAL COMPENSATION FOR BENEFIT PURPOSES:

The average annual earned compensation for the thirty-six highest months of successive employment, or the highest thirty-six successive joined months where interruption of service occurred; part-time employees use the base pay the part-time employee would have received had employment been full-time.

## EXHIBIT 5 (Continued) <br> \section*{Principle Provisions}

## ACCUMULATED CONTRIBUTIONS:

The sum of all amounts deducted from the earned compensation of a member and credited to the individual account in the employee's savings account, together with regular interest credited prior to July 1971.

## EMPLOYEE CONTRIBUTIONS:

Individual Employees
Agents of DOC
Wildlife Agents
Legislators, Judges

7\% of Compensation
8.5\% of Compensation

8\% of Compensation
11\% of Compensation

After June 30, 1989
7.5\%
9.0\%, 7.5\% after DROP
8.5\%, 9.5\% eff. 7/1/03
11.5\%

## EMPLOYER CONTRIBUTIONS:

9\% of Compensation by statute; 9.2\% effective 8/1/80; 10.2\% effective 7/1/84; $11.2 \%$ effective 9/11/85. Act 81 of 1988 requires employer rate to be actuarially determined and set annually.

## RETIREMENT BENEFIT:

NORMAL RETIREMENT:

Eligibility:

1. Member has attained age 60 and 10 years, or age 55 and 25 years of, or at any age and 30 years.
2. Certain members of the Department of Public Safety and Corrections, 20 years at any age (age 50 if employed after August 15, 1986, or 25 years at any age). For new hires after $12 / 31 / 2001,25$ years of service at any age.
3. Service as a judge or court officer, 18 years regardless of age, or age 50 and 20 years, or age 55 and 12 years, or age 60 regardless of service.
4. Members of the legislature, governor, lieutenant governor and state treasurer, 16 years of such service without regard to age, or age 50 with 20 years, or age 55 with 12 years.
5. Wildlife and Fisheries members hired before $7 / 1 / 2003$, age 55 and 10 years, or 20 years at any age. Members hired on or after $7 / 1 / 2003,25$ years at any age.

Benefit:

1. $2.5 \%$ of average compensation per year, plus $\$ 300$ supplemental benefit.
2. $2.5 \%$ of average compensation per year, plus $\$ 300$ supplemental benefit. For new hires after 12/31/2001, $31 / 3 \%$ of average compensation, plus $\$ 300$ supplemental benefit.
3. Annual pension equal to $31 / 2$ percent of average compensation for each year of creditable service as a judge or court officer, plus benefit described in (1) above for other state service.

## EXHIBIT 5 (Continued)

## Principle Provisions

4. $31 / 2 \%$ of average compensation per year as a legislator, governor, lieutenant governor, employees of the legislature or state treasurer, plus benefit described in (1) above for other state service.
5. $3 \%$ of average compensation per year for service earned prior to 7/1/03. $31 / 3 \%$ of average compensation for service earned on or after 7/1/03.

## NOTE:

A. Benefit not to exceed $100 \%$ of average earnable compensation.
B. Retiree who returns to work shall have benefits suspended while so re-employed; benefit in same amount shall resume after re-employment ceases, but shall include any Cost-of-Living benefits or increases granted during suspension (these are not retroactive). Retirees who return to work during a July 1 to June 30 year will not have his benefits reduced if his compensation does not exceed $50 \%$ of his annual benefit.
C. The $\$ 300$ annual supplemental benefit is discontinued to persons who become members of the retirement system after 6/30/86 (Act 608 of 1986).
D. For members employed after January 1, 1990, the annual pension cannot exceed the maximum benefit provided under Section 415(b)(2)(F) of the Internal Revenue Service Code as adjusted for inflation and form of benefit other than life annuity or qualified joint and survivor annuity for retirement ages as follows:

| $\frac{\text { AGE }}{48}$ | $\frac{\text { MAXIMUM }}{\$ 30,426}$ | $\frac{\text { AGE }}{}$ | 56 | $\frac{\text { MAXIMUM }}{\$ 63,539}$ | $\frac{\text { AGE }}{64}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |

## EARLY RETIREMENT:

Eligibility:
20 years of service credit regardless of attained age.

## Benefit:

Normal retirement benefit based upon service accrued to date, actuarially reduced from the earliest date member would be eligible if employment had continued, to the earliest normal retirement date.

## EXHIBIT 5 (Continued) <br> \section*{Principle Provisions}

## COST-OF-LIVING BENEFITS:

Act 572 of 1992 establishes an Experience Account which is credited with $50 \%$ of the excess investment experience gain and debited with $50 \%$ of the net investment experience loss. Balances in the experience account accrue interest at the average actuarial yield for the System portfolio. Act 402 of 1999 establishes that once the balance of the Experience Account accumulates to a sum sufficient to grant retirees a COLA, the Board shall grant such COLA not to exceed the lesser of the CPI-U or $2 \%$. Benefits are restricted to those retirees who have attained the age of 55 and have been retired for at least one year.

Acts 1016 and 1162 of the 2001 legislative session modify previous COLA provisions. The COLA shall be based on the first seventy thousand dollars of the retiree's annual benefit. The $2 \%$ COLA may be increased to $3 \%$ provided the yield on the investments of the system's assets exceed 8.25\%. The minimum age 55 for the receipt of a COLA was removed for disability retirees.

## MAXIMUM BENEFITS:

Effective September 1, 2001, retirees and beneficiaries receiving retirement benefits shall be entitled to a minimum benefit which is not less than $\$ 30.00$ per month for each year of creditable service. The minimum benefit is adjusted for the option elected at retirement.

## DISABILITY RETIREMENT:

Eligibility:
10 years of creditable service; certification of disability by medical board (medical examination may be required once in every year for the first 5 years of disability retirement, and once in every 2 years thereafter, until age 60.)

## Benefit:

1) The disability retirement annuity shall be equivalent to the regular retirement formula without reduction by reason of age for all classes of membership.
2) For judges and court officers, the benefit in (1) but not less than 50\% of current salary.
3) For certain Wildlife agents; partial disabilities not eligible for (1) above receive $75 \%$ of the benefit in (1); total disability in-line-of-duty receive 60\% of average compensation.

## EXHIBIT 5 (Continued)

## Principle Provisions

## SURVIVOR'S BENEFITS:

## Eligibility:

1. Surviving spouse with minor children, legally married 2 years prior to date of death of a member with 5 years of service credit, 2 of which were earned immediately prior to death, or 20 years of service.
2. Surviving spouse, legally married 2 years prior to death, of a deceased member with 10 years of service credit, 2 of which were earned immediately prior to death, or 20 years of service regardless of date earned.
3. Surviving minor child, with no spouse of a deceased member with 5 years of service credit, 2 of which were earned immediately prior to death, or 20 years of service regardless of date earned.
4. Surviving handicapped or mentally retarded children.
5. Surviving spouse of a judge or court officer.
6. Beneficiary not eligible for (1), (2), (3), (4) or (5).

## Benefit:

1. Greater of $75 \%$ of member's average compensation or $\$ 300$ per month. $1 / 3$ of the benefit is designated for survivor, $2 / 3$ for minor children.
2. Greater of $50 \%$ of member's average compensation or $\$ 200$ per month.
3. Greater of $75 \%$ of member's average compensation or $\$ 300$ per month.
4. Continuation of minor child's benefit described above in (1) or (3) whichever is applicable.
5. Survivor's benefit described in (1) or (2), but not less than the greater of $1 / 3$ the member's compensation or $50 \%$ of the retirement pay which such member was entitled or receiving prior to death.
6. Return of member's accumulated contributions.

## OPTIONAL FORMS

OF BENEFIT:

In lieu of receiving normal retirement benefit, member may elect to receive actuarial equivalent of retirement allowance in a reduced form as follows:

Option l - If a member dies before receiving present value of annuity in monthly payments, balance paid to designated beneficiary.

## EXHIBIT 5 (Continued)

## Principle Provisions

Option 2 - Reduced retirement allowance, if member dies, to be continued to designated beneficiary for his lifetime.

Option 3 - $1 / 2$ of reduced retirement allowance, if member dies, to be continued to designated beneficiary for his lifetime.

Option 4 - Other benefits of equal actuarial value may be elected with approval of board.
A. $90 \%$ of the maximum retirement allowance to member; if member dies, $55 \%$ of the maximum retirement allowance continued to beneficiary.
B. $90 \%$ of the maximum retirement allowance to member; if member dies, $55 \%$ of the maximum retirement allowance continues to beneficiary adjusted based on the age and relationship of the beneficiary to the member.

Initial Benefit Option - Maximum benefit actuarially reduced for partial lump-sum equal to not more than 36 months of maximum monthly pension.
C. Special reversionary annuities to Options 2, 3, and 4. Member's reduced benefit reverts to the maximum if the beneficiary predeceases the annuitant.

If divorced after retirement, optional benefit can revert to maximum benefit with actuarial adjustment.

## REFUND OF CONTRIBUTIONS:

If a member ceases to be a member, except by death or retirement, he shall be paid such part of the amount of the accumulated contributions credited to his individual account in annuity savings fund as he shall demand, plus any accumulated interest thereon as of 6/30/71; if member of legislature, no interest. No interest credited after 6/30/71. Death prior to retirement - accumulated contributions credited to individual account in annuity savings fund are returnable to designated beneficiary, if any; otherwise, to his estate.

WITHDRAWAL AFTER 10 YEARS OF CREDITABLE SERVICE:

Any member with credit for 10 years of service who withdraws from service may elect to leave accumulated contributions in system until age 60, when he may apply for retirement and begin receiving a retirement benefit based on the credits he had at date of withdrawal.

## DEFERRED RETIREMENT OPTION PLAN:

Instead of terminating employees and accepting a service retirement allowance, any member who has met the normal eligibility requirements may participate in the Deferred Retirement Option Plan (DROP) and defer receipt of benefits.

## EXHIBIT 5 (Continued)

## Principle Provisions

## NORMAL ELIGIBILITY:

Any member who is eligible for unreduced service retirement allowance may begin participation on the first retirement eligibility date for a period not to exceed the 3rd anniversary of retirement eligibility.

## BENEFIT:

Upon termination of employment, a participant will receive, at his option:
(1) lump sum payment (equal to the payments to the account);
(2) a true annuity based upon his account; or
(3) Other methods of payment approved by the board of trustees.

If a participant dies during the period of participation in the program, his account balance shall be paid to the beneficiary, or if none, to his estate in any form approved by the Board of Trustees.

If employment is not terminated at the end of DROP participation, then:
(1) payment into account shall cease;
(2) payment from account only upon termination of employment; and
(3) the participant shall resume active contributing membership.

Then, upon termination of employment, the benefit payments indicated above shall be paid. The participant shall receive an additional retirement benefit based on additional service rendered since termination of participation in the fund, usually the normal method of computation of benefit subject to the following:
(1) If additional service was less than 36 months, average compensation figure used to calculate initial benefit shall be that used.
(2) If additional service was 36 or more months, the average compensation figure used to calculate the additional benefit shall be based on compensation during the period of additional service.

DROP Accounts shall earn interest following termination of DROP at a rate .5\% below the actuarial rate of the System's investment portfolio.

Effective 1/1/2004 new DROP accounts are credited with Money Market rates or self directed accounts approved by the Board of Trustees.

## EXHIBIT 6

## ACTUARIAL COST METHODS AND ASSUMPTIONS

## COST METHOD:

The individual "Projected Unit Credit" cost method was used to calculate the funding requirements of the retirement system. Under this cost method, the actuarial present value of projected benefits of each individual included in the valuation is accumulated from the participant's attained age to the anticipated retirement dates. That portion of the actuarial present value attributable to current year benefit accruals is called the Normal Cost. The actuarial present value of future benefits in proportion to service accrued on the date of valuation is called the actuarial accrued liability.

## ASSET VALUATION:

Prior to June 30, 1999 the actuarial value of assets was the sum of the bonds at amortized cost, plus a weighted average of average unrealized loss (or gain) in the market value of equities.

For the Plan Year Ending June 30, 1999 and thereafter, the computation of the Actuarial Value of Assets is the market value of assets adjusted for a four year weighted average of the unrealized gain or loss in the value of all assets. This value is determined in accordance with Reg. 1.412(c)(2)-1-(6) \& (7) of the Internal Revenue Service Code and is subject to the Corridor Limits defined therein.

## ACCOUNTING DISCLOSURE:

The Governmental Accounting Standards Board Statement No. 25 requires the disclosure of certain Actuarial Liabilities for Public Employees Retirement Systems. The disclosures illustrated in Exhibit 3 were developed using the Projected Unit Credit cost method. The statement of assets provided by the audit staff was the final draft prior to publication. Should the statement of assets received differ from the final audit report, a revised actuarial statement will be issued, but only to the extent that any difference in reporting affects the employer's contribution rate or the yield to the Actuarial Value of Assets.

## ACTUARIAL ASSUMPTIONS:

The Retirement System is required to conduct an experience study every five years, but the scope of such a study is not necessarily limited to a five year period. The current five year observation period (1997-2001) was chosen to coincide with the most recent period of data reporting following the restructuring of the Deferred Retirement Option Program. The rates are projected separately for Regular Members, Corrections, Wildlife and Fisheries, and Judges. The current and prior rate tables are illustrated at the end of this exhibit.

## EXHIBIT 6 (Continued)

Cost Methods \& Assumptions

## MORTALITY ASSUMPTIONS:

Pre-retirement deaths and post-retirement life expectancies were projected in accordance with the experience of the 1983 Sex Distinct Graduated Group Annuity Mortality Table, with female age set at attained age plus one.

## DISABILITY ASSUMPTION:

Rates of total and permanent disability were projected by age in accordance with the most recent Experience Study. The rates are based upon attained age. For mortality after disability, rates were on the Eleventh Actuarial Valuation of the Railroad Retirement Systems for permanent disabilities.

## RETIREMENT/DROP ASSUMPTION:

Retirement rates are based on age and service eligibility requirements for normal benefits. Age and service requirements vary by plan. DROP is viewed as an alternative form of benefit accrual since mandatory termination is not required following participation. Therefore, at eligibility, the probability of DROP accrual is determine in conjunction with regular benefit accrual. Retirement rates and DROP probabilities are based on the most recent Experience Study.

## TERMINATION ASSUMPTIONS:

Voluntary termination or withdrawal rates are based on the most recent Experience Study. During the first five years of employment, the probability of voluntarily terminating is a multiple of the attained age rate in prior reports and a multiple of service duration in the current valuation as follows:
-- PRIOR ASUMPTIONS -- -- CURRENT ASSUMPTIONS --

|  | Regular <br> Members | Corrections <br> \& Wildlife | Regular <br> Members | Correction Members | Wildlife <br> \& Judges |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1st year | 1.3x | 1.6x | 1.3x | 1.5x | 1.0x |
| 2nd year | 1.0x | 1. 2 x | 1.0x | 1.0x | 1.0x |
| 3 rd year | 1.0x | 1.1x | 1.0x | 1.0x | 1.0x |
| $4 t h$ year | 1.0x | 1.1x | 1.0x | 1.0x | 1.0x |
| 5th year | 1.0x | 1.0x | 1.0x | 1.0x | 1.0x |

Furthermore, for members terminating with ten (10) or more years of service, it is assumed that $80 \%$ will not withdraw their accumulated employee contributions.

## SALARY GROWTH:

The rates of annual salary growth are based upon the members years of service and are illustrated in the rate tables at the end of this exhibit.

## EXHIBIT 6 (Continued)

## Cost Methods \& Assumptions

## FAMILY STATISTICS:

The composition of the Family was based on Age-Specific Fertility Rates from the 1983 Vital Statistics of the United States. $80 \%$ of the membership was assumed to be married with the wife assumed to be three (3) years younger than the husband. Sample rates are as follows:

| Age at <br> Death | Number of <br> Minor Chn. | Years for Youngest <br> Child to Attain Majority |
| :--- | :---: | :---: |
|  | 1.3 |  |
| 25 | 1.8 | 17 |
| 30 | 2.2 | 15 |
| 35 | 2.1 | 13 |
| 40 | 1.7 | 10 |
| 45 | 1.2 | 8 |
| 50 |  | 4 |

## ASSUMPTION FOR INCOMPLETE DATA:

Records identified as containing suspicious data or errors in data were assumed to possess the same characteristics of "good data" in the same cohort.

## INVESTMENT EARNINGS:

An effective annual rate of $81 / 4 \%$, net expenses.

## ADMINISTRATIVE EXPENSES:

Expenses are included in Aggregate Normal Cost and are assumed to be \$10,000,000 per year. Investment Manager fees are not included in Normal Cost but are treated as a direct offset to investment income. The Employer portion of the Normal Cost excludes an allocation for administrative expenses.

## COST-OF-LIVING:

The liability for a cost-of-living raise already granted is included in the retiree reserve.

## ACTUARIAL TABLES AND RATES (STATE EMPLOYEES' ASSUMPTIONS) OLD RATES PRIOR TO 6/30/2003

|  | Age | Death | Rates - | Remarriage | Disability | Retirement |  | Termination |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | Salary

## ACTUARIAL TABLES AND RATES (JUDGES \& LEGISLATORS ASSUMPTIONS)

 OLD RATES PRIOR TO 6/30/2003| Age | - Death Male | Rates Female | Remarriage Rates | Disability <br> Rates | Retirement Rates | Dur | Termination Rates | Salary <br> Scale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | . 00042 | . 00022 | . 09350 | . 00000 | . 00000 | 1 | . 27500 | 1.04750 |
| 21 | . 00044 | . 00024 | . 09152 | . 00000 | . 00000 | 2 | 32400 | 1.04750 |
| 22 | . 00045 | . 00025 | . 08954 | . 00000 | . 00000 | 3 | . 16400 | 1.04750 |
| 23 | . 00047 | . 00027 | . 08757 | . 00000 | . 00000 | 4 | . 13700 | 1.04750 |
| 24 | . 00049 | . 00028 | . 08569 | . 00000 | . 00000 | 5 | . 11800 | 1.04750 |
| 25 | . 00052 | . 00030 | . 08402 | . 00000 | . 00000 | 6 | . 11000 | 1.04750 |
| 26 | . 00054 | . 00032 | . 08225 | . 00000 | . 00000 | 7 | . 10100 | 1.04750 |
| 27 | . 00057 | . 00034 | . 08028 | . 00000 | . 00000 | 8 | . 08500 | 1.04750 |
| 28 | . 00060 | . 00036 | . 07802 | . 00000 | . 00000 | 9 | . 07100 | 1.04750 |
| 29 | . 00064 | . 00038 | . 07556 | . 00000 | . 00000 | 10 | . 05800 | 1.04750 |
| 30 | . 00067 | . 00040 | . 07281 | . 00020 | . 00000 | 11 | . 03200 | 1.04750 |
| 31 | . 00072 | . 00043 | . 06976 | . 00020 | . 00000 | 12 | . 02400 | 1.04750 |
| 32 | . 00076 | . 00046 | . 06652 | . 00030 | . 00000 | 13 | . 02000 | 1.04750 |
| 33 | . 00082 | . 00049 | . 06308 | . 00030 | . 00000 | 14 | . 02000 | 1.04750 |
| 34 | . 00087 | . 00053 | . 05945 | . 00040 | . 00000 | 15 | . 01700 | 1.04750 |
| 35 | . 00096 | . 00056 | . 05582 | . 00050 | . 00000 | 16 | . 01700 | 1.04750 |
| 36 | . 00101 | . 00060 | . 05230 | . 00060 | . 00000 | 17 | . 01300 | 1.04750 |
| 37 | . 00107 | . 00064 | . 04890 | . 00080 | . 00000 | 18 | . 01300 | 1.04750 |
| 38 | . 00115 | . 00069 | . 04570 | . 00100 | . 00000 | 19 | . 01300 | 1.04750 |
| 39 | . 00125 | . 00074 | . 04271 | . 00120 | . 00000 | 20 | . 01300 | 1.04750 |
| 40 | . 00138 | . 00080 | . 03993 | . 00130 | . 50000 | 21 | . 01200 | 1.04750 |
| 41 | . 00152 | . 00086 | . 03769 | . 00140 | . 50000 | 22 | . 01200 | 1.04750 |
| 42 | . 00170 | . 00094 | . 03480 | . 00150 | . 50000 | 23 | . 01200 | 1.04750 |
| 43 | . 00191 | . 00102 | . 03256 | . 00170 | . 50000 | 24 | . 01200 | 1.04750 |
| 44 | . 00215 | . 00112 | . 03037 | . 00200 | . 65000 | 25 | . 01100 | 1.04750 |
| 45 | . 00243 | . 00124 | . 02822 | . 00240 | . 65000 | 26 | . 01100 | 1.04750 |
| 46 | . 00275 | . 00137 | . 02632 | . 00280 | . 32000 | 27 | . 00800 | 1.04750 |
| 47 | . 00310 | . 00152 | . 02455 | . 00320 | . 32000 | 28 | . 00700 | 1.04750 |
| 48 | . 00349 | . 00167 | . 02303 | . 00360 | . 42000 | 29 | . 00600 | 1.04750 |
| 49 | . 00390 | . 00183 | . 02154 | . 00450 | . 43000 | 30 | . 01400 | 1.04750 |
| 50 | . 00434 | . 00199 | . 02019 | . 00540 | . 43000 | 31 | . 01300 | 1.04750 |
| 51 | . 00480 | . 00217 | . 01889 | . 00670 | . 42000 | 32 | . 01300 | 1.04750 |
| 52 | . 00528 | . 00236 | . 01808 | . 00800 | . 42000 | 33 | . 02000 | 1.04750 |
| 53 | . 00578 | . 00257 | . 01733 | . 00670 | . 42000 | 34 | . 01500 | 1.04750 |
| 54 | . 00629 | . 00282 | . 01671 | . 00540 | . 42000 | 35 | . 01500 | 1.04750 |
| 55 | . 00681 | . 00311 | . 01622 | . 00670 | . 47000 | 36 | . 01500 | 1.04750 |
| 56 | . 00735 | . 00345 | . 01596 | . 00920 | . 34000 | 37 | . 01500 | 1.04750 |
| 57 | . 00793 | . 00383 | . 01584 | . 01040 | . 32000 | 38 | . 01500 | 1.04750 |
| 58 | . 00858 | . 00425 | . 01589 | . 01140 | . 32000 | 39 | . 00000 | 1.04750 |
| 59 | . 00932 | . 00471 | . 01622 | . 01040 | . 32000 | 40 | . 00000 | 1.04750 |
| 60 | . 01018 | . 00523 | . 01682 | . 00400 | . 32000 | 41 | . 00000 | 1.04750 |
| 61 | . 01118 | . 00579 | . 01764 | . 00330 | . 27000 | 42 | . 00000 | 1.04750 |
| 62 | . 01237 | . 00641 | . 01906 | . 00250 | . 27000 | 43 | . 00000 | 1.04750 |
| 63 | . 01377 | . 00710 | . 02061 | . 00250 | . 27000 | 44 | . 00000 | 1.04750 |
| 64 | . 01541 | . 00785 | . 02239 | . 00300 | . 27000 | 45 | . 00000 | 1.04750 |
| 65 | . 01732 | . 00869 | . 02446 | . 00400 | . 44000 | 46 | . 00000 | 1.04750 |
| 66 | . 01953 | . 00965 | . 02684 | . 00000 | . 32000 | 47 | . 00000 | 1.04750 |
| 67 | . 02200 | . 01078 | . 02952 | . 00000 | . 32000 | 48 | . 00000 | 1.04750 |
| 68 | . 02470 | . 01214 | . 03209 | . 00000 | . 32000 | 49 | . 00000 | 1.04750 |
| 69 | . 02757 | . 01376 | . 03504 | . 00000 | . 42000 | 50 | . 00000 | 1.04750 |
| 70 | . 03059 | . 01570 | . 03851 | . 00000 | . 50000 | 51 | . 00000 | 1.04750 |
| 71 | . 03373 | . 01796 | . 04211 | . 00000 | . 42000 | 52 | . 00000 | 1.04750 |
| 72 | . 03708 | . 02053 | . 04563 | . 00000 | . 36000 | 53 | . 00000 | 1.04750 |
| 73 | . 04076 | . 02344 | . 04909 | . 00000 | . 36000 | 54 | . 00000 | 1.04750 |
| 74 | . 04488 | . 02666 | . 05262 | . 00000 | . 99990 | 55 | . 00000 | 1.04750 |

## ACTUARIAL TABLES AND RATES (STATE EMPLOYEES) NEW RATES 6/30/2003

|  | - Death | Rates | Disability | Termination | Retirement | DROP |  | Salary |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Male | Female | Rates | Rates | Rates | Rates | Dur | Scale |
| 18 | . 00039 | . 00020 | . 0000 | . 0500 | . 0000 | . 000 | 1 | 1.1400 |
| 19 | . 00041 | . 00021 | . 0000 | . 1100 | . 0000 | . 000 | 2 | 1.0900 |
| 20 | . 00042 | . 00022 | . 0000 | . 2100 | . 0000 | . 000 | 3 | 1.0750 |
| 21 | . 00044 | . 00024 | . 0000 | . 1900 | . 0000 | . 000 | 4 | 1.0700 |
| 22 | . 00045 | . 00025 | . 0000 | . 1800 | . 0000 | . 000 | 5 | 1.0650 |
| 23 | . 00047 | . 00027 | . 0000 | . 1600 | . 0000 | . 000 | 6 | 1.0600 |
| 24 | . 00049 | . 00028 | . 0000 | . 1600 | . 0000 | . 000 | 7 | 1.0600 |
| 25 | . 00052 | . 00030 | . 0000 | . 1600 | . 0000 | . 000 | 8 | 1.0600 |
| 26 | . 00054 | . 00032 | . 0000 | . 1600 | . 0000 | . 000 | 9 | 1.0600 |
| 27 | . 00057 | . 00034 | . 0000 | . 1500 | . 0000 | . 000 | 10 | 1.0550 |
| 28 | . 00060 | . 00036 | . 0001 | . 1400 | . 0000 | . 000 | 11 | 1.0500 |
| 29 | . 00064 | . 00038 | . 0001 | . 1300 | . 0000 | . 000 | 12 | 1.0500 |
| 30 | . 00067 | . 00040 | . 0001 | . 1200 | . 0000 | . 000 | 13 | 1.0500 |
| 31 | . 00072 | . 00043 | . 0001 | . 1100 | . 0000 | . 000 | 14 | 1.0500 |
| 32 | . 00076 | . 00046 | . 0001 | . 1000 | . 0000 | . 000 | 15 | 1.0500 |
| 33 | . 00082 | . 00049 | . 0001 | . 1000 | . 0000 | . 000 | 16 | 1.0450 |
| 34 | . 00087 | . 00053 | . 0002 | . 0900 | . 0000 | . 000 | 17 | 1.0450 |
| 35 | . 00096 | . 00056 | . 0003 | . 0900 | . 0000 | . 000 | 18 | 1.0450 |
| 36 | . 00101 | . 00060 | . 0004 | . 0600 | . 0000 | . 000 | 19 | 1.0450 |
| 37 | . 00107 | . 00064 | . 0005 | . 0600 | . 0000 | . 000 | 20 | 1.0450 |
| 38 | . 00115 | . 00069 | . 0008 | . 0500 | . 0000 | . 000 | 21 | 1.0450 |
| 39 | . 00125 | . 00074 | . 0015 | . 0500 | . 0000 | . 000 | 22 | 1.0425 |
| 40 | . 00138 | . 00080 | . 0015 | . 0500 | . 0000 | . 000 | 23 | 1.0425 |
| 41 | . 00152 | . 00086 | . 0015 | . 0400 | . 0000 | . 000 | 24 | 1.0425 |
| 42 | . 00170 | . 00094 | . 0015 | . 0400 | . 0000 | . 000 | 25 | 1.0425 |
| 43 | . 00191 | . 00102 | . 0017 | . 0400 | . 0000 | . 000 | 26 | 1.0425 |
| 44 | . 00215 | . 00112 | . 0026 | . 0300 | . 0000 | . 000 | 27 | 1.0425 |
| 45 | . 00243 | . 00124 | . 0027 | . 0300 | . 0000 | . 000 | 28 | 1.0425 |
| 46 | . 00275 | . 00137 | . 0030 | . 0300 | . 0000 | . 000 | 29 | 1.0425 |
| 47 | . 00310 | . 00152 | . 0033 | . 0300 | . 0000 | . 000 | 30 | 1.0425 |
| 48 | . 00349 | . 00167 | . 0033 | . 0300 | . 4000 | . 300 | 31 | 1.0500 |
| 49 | . 00390 | . 00183 | . 0050 | . 0300 | . 3000 | . 420 | 32 | 1.0500 |
| 50 | . 00434 | . 00199 | . 0037 | . 0300 | . 3500 | . 330 | 33 | 1.0600 |
| 51 | . 00480 | . 00217 | . 0037 | . 0300 | . 3700 | . 330 | 34 | 1.0600 |
| 52 | . 00528 | . 00236 | . 0037 | . 0300 | . 4000 | . 330 | 35 | 1.0600 |
| 53 | . 00578 | . 00257 | . 0055 | . 0200 | . 4500 | . 330 | 36 | 1.0600 |
| 54 | . 00629 | . 00282 | . 0050 | . 0200 | . 3500 | . 330 | 37 | 1.0500 |
| 55 | . 00681 | . 00311 | . 0044 | . 0200 | . 3500 | . 330 | 38 | 1.0500 |
| 56 | . 00735 | . 00345 | . 0030 | . 0200 | . 3500 | . 250 | 39 | 1.0500 |
| 57 | . 00793 | . 00383 | . 0024 | . 0200 | . 4500 | . 200 | 40 | 1.0500 |
| 58 | . 00858 | . 00425 | . 0021 | . 0200 | . 6000 | . 200 | 41 | 1.0500 |
| 59 | . 00932 | . 00471 | . 0008 | . 0200 | . 4700 | . 250 | 42 | 1.0500 |
| 60 | . 01018 | . 00523 | . 0000 | . 0200 | . 2600 | . 250 | 43 | 1.0500 |
| 61 | . 01118 | . 00579 | . 0000 | . 0200 | . 2600 | . 150 | 44 | 1.0500 |
| 62 | . 01237 | . 00641 | . 0000 | . 0200 | . 3300 | . 150 | 45 | 1.0500 |
| 63 | . 01377 | . 00710 | . 0000 | . 0200 | . 4000 | . 150 | 46 | 1.0500 |
| 64 | . 01541 | . 00785 | . 0000 | . 0200 | . 3600 | . 150 | 47 | 1.0500 |
| 65 | . 01732 | . 00869 | . 0000 | . 0200 | . 3600 | . 150 | 48 | 1.0500 |
| 66 | . 01953 | . 00965 | . 0000 | . 0200 | . 3300 | . 150 | 49 | 1.0500 |
| 67 | . 02200 | . 01078 | . 0000 | . 0200 | . 3000 | . 250 | 50 | 1.0500 |
| 68 | . 02470 | . 01214 | . 0000 | . 0200 | . 3000 | . 300 | 51 | 1.0500 |
| 69 | . 02757 | . 01376 | . 0000 | . 0100 | . 3000 | . 100 | 52 | 1.0500 |
| 70 | . 03059 | . 01570 | . 0000 | . 0100 | . 2500 | . 100 | 53 | 1.0500 |
| 71 | . 03373 | . 01796 | . 0000 | . 0000 | . 2500 | . 100 | 54 | 1.0500 |
| 72 | . 03708 | . 02053 | . 0000 | . 0000 | . 4300 | . 000 | 55 | 1.0500 |
| 73 | . 04076 | . 02344 | . 0000 | . 0000 | . 5200 | . 000 | 56 | 1.0500 |
| 74 | . 04488 | . 02666 | . 0000 | . 0000 | . 9900 | . 000 | 57 | 1.0500 |

ACTUARIAL TABLES AND RATES (JUDGES) NEW RATES 6/30/2003

|  | - Death | Rates - | Disability | Termination | Retirement | DROP |  | Salary |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Male | Female | Rates | Rates | Rates | Rates | Dur | Scale |
| 18 | . 00039 | . 00020 | . 0000 | . 0000 | . 0000 | . 000 | 1 | 1.0470 |
| 19 | . 00041 | . 00021 | . 0000 | . 0000 | . 0000 | . 000 | 2 | 1.0250 |
| 20 | . 00042 | . 00022 | . 0000 | . 0000 | . 0000 | . 000 | 3 | 1.0250 |
| 21 | . 00044 | . 00024 | . 0000 | . 0000 | . 0000 | . 000 | 4 | 1.0250 |
| 22 | . 00045 | . 00025 | . 0000 | . 0000 | . 0000 | . 000 | 5 | 1.0250 |
| 23 | . 00047 | . 00027 | . 0000 | . 0000 | . 0000 | . 000 | 6 | 1.0250 |
| 24 | . 00049 | . 00028 | . 0000 | . 0000 | . 0000 | . 000 | 7 | 1.0250 |
| 25 | . 00052 | . 00030 | . 0000 | . 0000 | . 0000 | . 000 | 8 | 1.0250 |
| 26 | . 00054 | . 00032 | . 0000 | . 0000 | . 0000 | . 000 | 9 | 1.0250 |
| 27 | . 00057 | . 00034 | . 0000 | . 0000 | . 0000 | . 000 | 10 | 1.0250 |
| 28 | . 00060 | . 00036 | . 0000 | . 0000 | . 0000 | . 000 | 11 | 1.0250 |
| 29 | . 00064 | . 00038 | . 0000 | . 0000 | . 0000 | . 000 | 12 | 1.0250 |
| 30 | . 00067 | . 00040 | . 0002 | . 0050 | . 0000 | . 000 | 13 | 1.0250 |
| 31 | . 00072 | . 00043 | . 0002 | . 0050 | . 0000 | . 000 | 14 | 1.0250 |
| 32 | . 00076 | . 00046 | . 0002 | . 0050 | . 0000 | . 000 | 15 | 1.0250 |
| 33 | . 00082 | . 00049 | . 0002 | . 0050 | . 0000 | . 000 | 16 | 1.0250 |
| 34 | . 00087 | . 00053 | . 0002 | . 0050 | . 0000 | . 000 | 17 | 1.0250 |
| 35 | . 00096 | . 00056 | . 0002 | . 0050 | . 0000 | . 000 | 18 | 1.0250 |
| 36 | . 00101 | . 00060 | . 0002 | . 0050 | . 0000 | . 000 | 19 | 1.0250 |
| 37 | . 00107 | . 00064 | . 0002 | . 0050 | . 0000 | . 000 | 20 | 1.0250 |
| 38 | . 00115 | . 00069 | . 0002 | . 0050 | . 0000 | . 000 | 21 | 1.0250 |
| 39 | . 00125 | . 00074 | . 0002 | . 0050 | . 0000 | . 000 | 22 | 1.0250 |
| 40 | . 00138 | . 00080 | . 0002 | . 0050 | . 0000 | . 000 | 23 | 1.0250 |
| 41 | . 00152 | . 00086 | . 0002 | . 0050 | . 0000 | . 000 | 24 | 1.0250 |
| 42 | . 00170 | . 00094 | . 0002 | . 0050 | . 0000 | . 000 | 25 | 1.0250 |
| 43 | . 00191 | . 00102 | . 0002 | . 0050 | . 0000 | . 000 | 26 | 1.0250 |
| 44 | . 00215 | . 00112 | . 0002 | . 0050 | . 0000 | . 000 | 27 | 1.0250 |
| 45 | . 00243 | . 00124 | . 0002 | . 0050 | . 0000 | . 000 | 28 | 1.0250 |
| 46 | . 00275 | . 00137 | . 0002 | . 0050 | . 0000 | . 000 | 29 | 1.0250 |
| 47 | . 00310 | . 00152 | . 0002 | . 0050 | . 0000 | . 000 | 30 | 1.0250 |
| 48 | . 00349 | . 00167 | . 0002 | . 0050 | . 0000 | . 000 | 31 | 1.0250 |
| 49 | . 00390 | . 00183 | . 0002 | . 0050 | . 5000 | . 000 | 32 | 1.0250 |
| 50 | . 00434 | . 00199 | . 0002 | . 0050 | . 5000 | . 000 | 33 | 1.0250 |
| 51 | . 00480 | . 00217 | . 0002 | . 0000 | . 5000 | . 000 | 34 | 1.0250 |
| 52 | . 00528 | . 00236 | . 0002 | . 0000 | . 5000 | . 900 | 35 | 1.0250 |
| 53 | . 00578 | . 00257 | . 0002 | . 0000 | . 3500 | . 900 | 36 | 1.0250 |
| 54 | . 00629 | . 00282 | . 0002 | . 0000 | . 3500 | . 900 | 37 | 1.0250 |
| 55 | . 00681 | . 00311 | . 0002 | . 0000 | . 3500 | . 900 | 38 | 1.0250 |
| 56 | . 00735 | . 00345 | . 0002 | . 0000 | . 3500 | . 500 | 39 | 1.0250 |
| 57 | . 00793 | . 00383 | . 0002 | . 0000 | . 1000 | . 500 | 40 | 1.0250 |
| 58 | . 00858 | . 00425 | . 0002 | . 0000 | . 1000 | . 500 | 41 | 1.0250 |
| 59 | . 00932 | . 00471 | . 0002 | . 0000 | . 1000 | . 150 | 42 | 1.0250 |
| 60 | . 01018 | . 00523 | . 0002 | . 0000 | . 1000 | . 150 | 43 | 1.0250 |
| 61 | . 01118 | . 00579 | . 0002 | . 0000 | . 1000 | . 150 | 44 | 1.0250 |
| 62 | . 01237 | . 00641 | . 0002 | . 0000 | . 1000 | . 150 | 45 | 1.0250 |
| 63 | . 01377 | . 00710 | . 0002 | . 0000 | . 1000 | . 900 | 46 | 1.0250 |
| 64 | . 01541 | . 00785 | . 0002 | . 0000 | . 1000 | . 750 | 47 | 1.0250 |
| 65 | . 01732 | . 00869 | . 0002 | . 0000 | . 1000 | . 330 | 48 | 1.0250 |
| 66 | . 01953 | . 00965 | . 0002 | . 0000 | . 1000 | . 150 | 49 | 1.0250 |
| 67 | . 02200 | . 01078 | . 0002 | . 0000 | . 1000 | . 150 | 50 | 1.0250 |
| 68 | . 02470 | . 01214 | . 0002 | . 0000 | . 1000 | . 150 | 51 | 1.0250 |
| 69 | . 02757 | . 01376 | . 0002 | . 0000 | . 6200 | . 000 | 52 | 1.0250 |
| 70 | . 03059 | . 01570 | . 0000 | . 0000 | . 9900 | . 000 | 53 | 1.0250 |
| 71 | . 03373 | . 01796 | . 0000 | . 0000 | . 9900 | . 000 | 54 | 1.0250 |
| 72 | . 03708 | . 02053 | . 0000 | . 0000 | . 9900 | . 000 | 55 | 1.0250 |
| 73 | . 04076 | . 02344 | . 0000 | . 0000 | . 9900 | . 000 | 56 | 1.0250 |
| 74 | . 04488 | . 02666 | . 0000 | . 0000 | . 9900 | . 000 | 57 | 1.0250 |

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ACTUARIAL TABLES AND RATES (CORRECTIONS) NEW RATES 6/30/2003

| Age | - Death Male | Rates Female | Disability Rates | Termination Rates | Retirement Rates | DROP <br> Rates | Dur | Salary Scale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | . 00039 | . 00020 | . 0000 | . 0500 | . 0000 | . 000 | 1 | 1.1800 |
| 19 | . 00041 | . 00021 | . 0000 | . 2400 | . 0000 | . 000 | 2 | 1.0900 |
| 20 | . 00042 | . 00022 | . 0000 | . 2400 | . 0000 | . 000 | 3 | 1.0800 |
| 21 | . 00044 | . 00024 | . 0000 | . 3100 | . 0000 | . 000 | 4 | 1.0800 |
| 22 | . 00045 | . 00025 | . 0000 | . 2500 | . 0000 | . 000 | 5 | 1.0800 |
| 23 | . 00047 | . 00027 | . 0000 | . 2400 | . 0000 | . 000 | 6 | 1.0750 |
| 24 | . 00049 | . 00028 | . 0000 | . 2300 | . 0000 | . 000 | 7 | 1.0750 |
| 25 | . 00052 | . 00030 | . 0000 | . 2200 | . 0000 | . 000 | 8 | 1.0750 |
| 26 | . 00054 | . 00032 | . 0000 | . 2100 | . 0000 | . 000 | 9 | 1.0750 |
| 27 | . 00057 | . 00034 | . 0000 | . 1800 | . 0000 | . 000 | 10 | 1.0750 |
| 28 | . 00060 | . 00036 | . 0000 | . 1700 | . 0000 | . 000 | 11 | 1.0750 |
| 29 | . 00064 | . 00038 | . 0000 | . 1600 | . 0000 | . 000 | 12 | 1.0750 |
| 30 | . 00067 | . 00040 | . 0002 | . 1500 | . 0000 | . 000 | 13 | 1.0700 |
| 31 | . 00072 | . 00043 | . 0002 | . 1300 | . 0000 | . 000 | 14 | 1.0600 |
| 32 | . 00076 | . 00046 | . 0003 | . 1200 | . 0000 | . 000 | 15 | 1.0600 |
| 33 | . 00082 | . 00049 | . 0003 | . 1000 | . 0000 | . 000 | 16 | 1.0600 |
| 34 | . 00087 | . 00053 | . 0004 | . 1000 | . 0000 | . 000 | 17 | 1.0600 |
| 35 | . 00096 | . 00056 | . 0005 | . 1000 | . 0000 | . 000 | 18 | 1.0600 |
| 36 | . 00101 | . 00060 | . 0006 | . 1000 | . 0000 | . 000 | 19 | 1.0600 |
| 37 | . 00107 | . 00064 | . 0008 | . 0900 | . 0000 | . 000 | 20 | 1.0600 |
| 38 | . 00115 | . 00069 | . 0010 | . 0800 | . 0000 | . 000 | 21 | 1.0600 |
| 39 | . 00125 | . 00074 | . 0012 | . 0600 | . 0000 | . 000 | 22 | 1.0600 |
| 40 | . 00138 | . 00080 | . 0013 | . 0600 | . 0000 | . 000 | 23 | 1.0600 |
| 41 | . 00152 | . 00086 | . 0014 | . 0600 | . 0000 | . 000 | 24 | 1.0600 |
| 42 | . 00170 | . 00094 | . 0015 | . 0500 | . 0000 | . 000 | 25 | 1.0600 |
| 43 | . 00191 | . 00102 | . 0017 | . 0500 | . 0000 | . 000 | 26 | 1.0600 |
| 44 | . 00215 | . 00112 | . 0017 | . 0500 | . 0000 | . 000 | 27 | 1.0600 |
| 45 | . 00243 | . 00124 | . 0017 | . 0400 | . 0000 | . 000 | 28 | 1.0500 |
| 46 | . 00275 | . 00137 | . 0017 | . 0400 | . 0000 | . 000 | 29 | 1.0400 |
| 47 | . 00310 | . 00152 | . 0017 | . 0300 | . 0000 | . 000 | 30 | 1.0400 |
| 48 | . 00349 | . 00167 | . 0017 | . 0300 | . 8000 | . 900 | 31 | 1.0400 |
| 49 | . 00390 | . 00183 | . 0045 | . 0300 | . 7000 | . 900 | 32 | 1.0400 |
| 50 | . 00434 | . 00199 | . 0054 | . 0300 | . 7000 | . 900 | 33 | 1.0400 |
| 51 | . 00480 | . 00217 | . 0060 | . 0300 | . 7000 | . 500 | 34 | 1.0400 |
| 52 | . 00528 | . 00236 | . 0060 | . 0300 | . 7000 | . 500 | 35 | 1.0400 |
| 53 | . 00578 | . 00257 | . 0060 | . 0500 | . 7000 | . 450 | 36 | 1.0400 |
| 54 | . 00629 | . 00282 | . 0130 | . 0500 | . 9000 | . 100 | 37 | 1.0400 |
| 55 | . 00681 | . 00311 | . 0070 | . 0500 | . 7500 | . 550 | 38 | 1.0400 |
| 56 | . 00735 | . 00345 | . 0040 | . 0500 | . 7500 | . 400 | 39 | 1.0400 |
| 57 | . 00793 | . 00383 | . 0040 | . 0500 | . 7500 | . 150 | 40 | 1.0400 |
| 58 | . 00858 | . 00425 | . 0040 | . 0500 | . 7500 | . 150 | 41 | 1.0400 |
| 59 | . 00932 | . 00471 | . 0040 | . 0500 | . 4500 | . 150 | 42 | 1.0400 |
| 60 | . 01018 | . 00523 | . 0040 | . 0500 | . 2500 | . 250 | 43 | 1.0400 |
| 61 | . 01118 | . 00579 | . 0000 | . 0500 | . 2500 | . 250 | 44 | 1.0400 |
| 62 | . 01237 | . 00641 | . 0000 | . 0500 | . 2500 | . 050 | 45 | 1.0400 |
| 63 | . 01377 | . 00710 | . 0000 | . 0500 | . 3500 | . 050 | 46 | 1.0400 |
| 64 | . 01541 | . 00785 | . 0000 | . 0500 | . 3500 | . 050 | 47 | 1.0400 |
| 65 | . 01732 | . 00869 | . 0000 | . 1000 | . 3500 | . 050 | 48 | 1.0400 |
| 66 | . 01953 | . 00965 | . 0000 | . 0000 | . 3500 | . 050 | 49 | 1.0400 |
| 67 | . 02200 | . 01078 | . 0000 | . 0000 | . 3000 | . 150 | 50 | 1.0400 |
| 68 | . 02470 | . 01214 | . 0000 | . 0000 | . 5000 | . 000 | 51 | 1.0400 |
| 69 | . 02757 | . 01376 | . 0000 | . 0000 | . 5000 | . 000 | 52 | 1.0400 |
| 70 | . 03059 | . 01570 | . 0000 | . 0000 | . 9900 | . 000 | 53 | 1.0400 |
| 71 | . 03373 | . 01796 | . 0000 | . 0000 | . 9900 | . 000 | 54 | 1.0400 |
| 72 | . 03708 | . 02053 | . 0000 | . 0000 | . 9900 | . 000 | 55 | 1.0400 |
| 73 | . 04076 | . 02344 | . 0000 | . 0000 | . 9900 | . 000 | 56 | 1.0400 |
| 74 | . 04488 | . 02666 | . 0000 | . 0000 | . 9900 | . 000 | 57 | 1.0400 |

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ACTUARIAL TABLES AND RATES (WILDLIFE) NEW RATES 6/30/2003

| Age | - Death Male | Rates Female | Disability <br> Rates | Termination Rates | Retirement Rates | DROP <br> Rates | Dur | Salary Scale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | . 00039 | . 00020 | . 0000 | . 1000 | . 0000 | . 000 | 1 | 1.1800 |
| 19 | . 00041 | . 00021 | . 0000 | . 1000 | . 0000 | . 000 | 2 | 1.1700 |
| 20 | . 00042 | . 00022 | . 0000 | . 1000 | . 0000 | . 000 | 3 | 1.1000 |
| 21 | . 00044 | . 00024 | . 0000 | . 1000 | . 0000 | . 000 | 4 | 1.0900 |
| 22 | . 00045 | . 00025 | . 0000 | . 1000 | . 0000 | . 000 | 5 | 1.0800 |
| 23 | . 00047 | . 00027 | . 0000 | . 1000 | . 0000 | . 000 | 6 | 1.0800 |
| 24 | . 00049 | . 00028 | . 0000 | . 0700 | . 0000 | . 000 | 7 | 1.0800 |
| 25 | . 00052 | . 00030 | . 0000 | . 0700 | . 0000 | . 000 | 8 | 1.0800 |
| 26 | . 00054 | . 00032 | . 0000 | . 0700 | . 0000 | . 000 | 9 | 1.0800 |
| 27 | . 00057 | . 00034 | . 0000 | . 0700 | . 0000 | . 000 | 10 | 1.0650 |
| 28 | . 00060 | . 00036 | . 0000 | . 0700 | . 0000 | . 000 | 11 | 1.0650 |
| 29 | . 00064 | . 00038 | . 0000 | . 0700 | . 0000 | . 000 | 12 | 1.0650 |
| 30 | . 00067 | . 00040 | . 0001 | . 0700 | . 0000 | . 000 | 13 | 1.0650 |
| 31 | . 00072 | . 00043 | . 0001 | . 0700 | . 0000 | . 000 | 14 | 1.0650 |
| 32 | . 00076 | . 00046 | . 0001 | . 0700 | . 0000 | . 000 | 15 | 1.0650 |
| 33 | . 00082 | . 00049 | . 0001 | . 0700 | . 0000 | . 000 | 16 | 1.0650 |
| 34 | . 00087 | . 00053 | . 0001 | . 0700 | . 0000 | . 000 | 17 | 1.0650 |
| 35 | . 00096 | . 00056 | . 0100 | . 0200 | . 0000 | . 000 | 18 | 1.0650 |
| 36 | . 00101 | . 00060 | . 0100 | . 0200 | . 0000 | . 000 | 19 | 1.0650 |
| 37 | . 00107 | . 00064 | . 0100 | . 0200 | . 0000 | . 000 | 20 | 1.0650 |
| 38 | . 00115 | . 00069 | . 0100 | . 0200 | . 0000 | . 000 | 21 | 1.0650 |
| 39 | . 00125 | . 00074 | . 0100 | . 0200 | . 0000 | . 000 | 22 | 1.0650 |
| 40 | . 00138 | . 00080 | . 0100 | . 0100 | . 0000 | . 000 | 23 | 1.0650 |
| 41 | . 00152 | . 00086 | . 0100 | . 0100 | . 0000 | . 000 | 24 | 1.0650 |
| 42 | . 00170 | . 00094 | . 0100 | . 0100 | . 0000 | . 000 | 25 | 1.0650 |
| 43 | . 00191 | . 00102 | . 0100 | . 0100 | . 0000 | . 000 | 26 | 1.0650 |
| 44 | . 00215 | . 00112 | . 0100 | . 0100 | . 0000 | . 000 | 27 | 1.0650 |
| 45 | . 00243 | . 00124 | . 0100 | . 0100 | . 0000 | . 000 | 28 | 1.0650 |
| 46 | . 00275 | . 00137 | . 0000 | . 0100 | . 0000 | . 000 | 29 | 1.0650 |
| 47 | . 00310 | . 00152 | . 0000 | . 0100 | . 0000 | . 000 | 30 | 1.0650 |
| 48 | . 00349 | . 00167 | . 0000 | . 0100 | . 5000 | . 500 | 31 | 1.0650 |
| 49 | . 00390 | . 00183 | . 0000 | . 0100 | . 5000 | . 500 | 32 | 1.0650 |
| 50 | . 00434 | . 00199 | . 0000 | . 0100 | . 5000 | . 500 | 33 | 1.0650 |
| 51 | . 00480 | . 00217 | . 0000 | . 0100 | . 5000 | . 500 | 34 | 1.0650 |
| 52 | . 00528 | . 00236 | . 0000 | . 0100 | . 5000 | . 500 | 35 | 1.0650 |
| 53 | . 00578 | . 00257 | . 0000 | . 0100 | . 5000 | . 500 | 36 | 1.0650 |
| 54 | . 00629 | . 00282 | . 0000 | . 0100 | . 5000 | . 500 | 37 | 1.0650 |
| 55 | . 00681 | . 00311 | . 0000 | . 0100 | . 5000 | . 500 | 38 | 1.0650 |
| 56 | . 00735 | . 00345 | . 0000 | . 0000 | . 5000 | . 500 | 39 | 1.0650 |
| 57 | . 00793 | . 00383 | . 0000 | . 0000 | . 5000 | . 500 | 40 | 1.0650 |
| 58 | . 00858 | . 00425 | . 0000 | . 0000 | . 5000 | . 500 | 41 | 1.0650 |
| 59 | . 00932 | . 00471 | . 0000 | . 0000 | . 5000 | . 500 | 42 | 1.0650 |
| 60 | . 01018 | . 00523 | . 0000 | . 0000 | . 5000 | . 500 | 43 | 1.0650 |
| 61 | . 01118 | . 00579 | . 0000 | . 0000 | . 5000 | . 500 | 44 | 1.0650 |
| 62 | . 01237 | . 00641 | . 0000 | . 0000 | . 5000 | . 500 | 45 | 1.0650 |
| 63 | . 01377 | . 00710 | . 0000 | . 0000 | . 5000 | . 500 | 46 | 1.0650 |
| 64 | . 01541 | . 00785 | . 0000 | . 0000 | . 5000 | . 500 | 47 | 1.0650 |
| 65 | . 01732 | . 00869 | . 0000 | . 0000 | . 9900 | . 000 | 48 | 1.0650 |
| 66 | . 01953 | . 00965 | . 0000 | . 0000 | . 9900 | . 000 | 49 | 1.0650 |
| 67 | . 02200 | . 01078 | . 0000 | . 0000 | . 9900 | . 000 | 50 | 1.0650 |
| 68 | . 02470 | . 01214 | . 0000 | . 0000 | . 9900 | . 000 | 51 | 1.0650 |
| 69 | . 02757 | . 01376 | . 0000 | . 0000 | . 9900 | . 000 | 52 | 1.0650 |
| 70 | . 03059 | . 01570 | . 0000 | . 0000 | . 9900 | . 000 | 53 | 1.0650 |
| 71 | . 03373 | . 01796 | . 0000 | . 0000 | . 9900 | . 000 | 54 | 1.0650 |
| 72 | . 03708 | . 02053 | . 0000 | . 0000 | . 9900 | . 000 | 55 | 1.0650 |
| 73 | . 04076 | . 02344 | . 0000 | . 0000 | . 9900 | . 000 | 56 | 1.0650 |
| 74 | . 04488 | . 02666 | . 0000 | . 0000 | . 9900 | . 000 | 57 | 1.0650 |

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## EXHIBIT A

## AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY JUNE 30, 2003

| $\begin{aligned} & \text { DATE } \\ & 6 / 30 \\ & \hline \end{aligned}$ | DESCRIPTION | AMTZ. METHOD | AMTZ. PERIOD | INITIAL LIABILITY | YEARS REMAIN | REMAINING BALANCE | MID-YEAR PAYMENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1993 | Initial Liability | I | 36 | 2,155,232,774 | 26 | 2,793,939, 038 | 167,793,466 |
| 1992 | Legislative COLA | L | 12 | 66,577,000 | 1 | 8,267,166 | 8,601,429 |
| 1993 | Change in Liability | I | 36 | -133, 232,174 | 26 | -172,715,716 | -10,372,656 |
| 1994 | Change in Liability | I | 35 | -48,680, 987 | 26 | -61, 249,320 | -3, 678, 404 |
| 1995 | Change in Liability | I | 34 | -57,826, 272 | 26 | -70,664,153 | -4, 243, 823 |
| 1996 | Change in Liability | I | 33 | 70, 910,540 | 26 | 84,226,885 | 5, 058, 350 |
| 1997 | Change in Liability | I | 32 | -239,190, 250 | 26 | -276,379,799 | -16,598,331 |
| 1998 | Change in Liability | I | 31 | -92,217,582 | 26 | -103, 748,420 | -6,230,740 |
| 1999 | Change in Liability | I | 30 | 92,641,287 | 26 | 101,575, 042 | 6,100,215 |
| 2000 | Change in Liability | I | 29 | 42,956,768 | 26 | 45,948, 246 | 2,759,479 |
| 2001 | Change in Liability | I | 28 | 102,461, 684 | 26 | 107, 035, 471 | 6,428,148 |
| 2002 | Change in Liability | I | 27 | 449, 748, 199 | 26 | 459, 384, 127 | 27,588, 882 |
| 2003 | TSF payment | I | 26 | -89,200, 275 | 26 | -89,200, 275 | -5, 357, 033 |
| 2003 | Change in Liability | I | 26 | 485, 812, 592 | 26 | 485, 812, 592 | 29,176, 076 |
| TOTAL OUTSTANDING BALANCE |  |  |  |  |  | 3,312, 230,884 | 207, 025, 058 |

## EMPLOYERS' CREDIT BALANCE

1999
2000
2001
2002
2003

| Contribution Variance L | 5 | $-4,655,857$ | 1 | $-1,084,326$ | $-1,128,168$ |  |
| ---: | :--- | :--- | ---: | ---: | ---: | ---: |
| Contribution Variance L | 5 | 535,256 | 2 | 239,816 | 129,699 |  |
| Contribution Variance L | 5 | $-1,748,006$ | 3 | $-1,130,592$ | $-423,562$ |  |
| Contribution Variance L | 5 | $7,779,882$ | 4 | $6,460,345$ | $1,885,156$ |  |
| Contribution Variance L | 5 | $16,739,921$ | 5 | $16,739,921$ | $4,056,278$ |  |
| $\quad$ TOTAL CREDIT BALANCE |  |  |  |  | $4,21,225,164$ | $4,519,403$ |

TOTAL UNFUNDED ACTUARIAL ACCRUED LIABILITY
$3,333,456,048$

Effective July 1, 1992, Amortization Periods changed in accordance with Act 257.


[^0]:    ${ }^{1}$ Dollar Amounts reflect estimated payments due mid-year on January 1st per Act 81.
    ${ }^{2}$ Constitutional Minimum is $12 \%$ without regards to Employer Credits.

