

**LOUISIANA STATE EMPLOYEES'  
RETIREMENT SYSTEM  
JUNE 30, 1997  
ACTUARIAL VALUATION**

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**HALL ACTUARIAL ASSOCIATES**

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Charles G. Hall  
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Enrolled Actuary

1433 Hideaway Court  
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September 15, 1997

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, 1997.

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 15, 1997

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

	<u>June 30, 1997</u>	<u>-----Prior Years-----</u>	
		<u>June 30, 1996</u>	<u>June 30, 1995</u>
I. Membership Census			
1) Retirees	28,796	28,030	27,761
2) Actives	69,444	69,680	66,628
3) DROP	2,562	2,320	1,453
II. Annual Benefits	\$ 324,926,306	\$ 306,403,091	\$ 272,435,493
III. Total Payroll	1,607,371,721	1,584,357,131	1,547,977,166
IV. Valuation Assets	4,453,189,233	4,040,840,039	3,612,628,700
V. Experience Account	212,947,917	84,818,098	61,772,504
VI. Investment Yield			
Realized Income	12.34%	8.91%	9.67%
Actuarial Value	14.03%	12.34%	9.49%
VII. Cost to Fund Annual Pension Accruals (Normal Costs)	220,968,688 13.75%	214,737,815 13.55%	211,033,659 13.63%
VIII. Unfunded Actuarial Accrued Liability	2,036,171,904	2,213,565,224	2,084,280,556
IX. Funded Percentage	68.62%	64.61%	64.35%
X. Funding Requirements to Pay (Mid-year Payment)			
1) Employee Contribution Rate	125,292,071 7.670%	121,406,118 7.663%	122,450,384 7.661%
2) Employer Contribution Rate - Current Year	205,934,238 12.6%	205,875,608 12.8%	197,339,946 12.3%
3) Projected Employer Contribution - Next Year	212,705,471 12.4%	219,357,113 13.0%	207,388,984 12.4%

The above funding requirements measure the cost of benefits that were in effect on June 30, 1997, plus Acts of the 1997 Legislative Session which have prospective effects on current active members.

Board of Trustees

**LASERS**

September 15, 1997

**Current Funding**

The Actuarial Valuation for the plan year ending June 30, 1997 discloses a general decrease 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 6/30/96 \$ 2,213,565,224

**INCREASES**

Interest on Unfunded Liability	\$ 182,619,131
Experience Account Allocation	116,230,215
Employer Charge	3,429,831
Texaco Account Adj.	<u>778,390</u>
Incurred Increases	303,057,567

**DECREASES**

Investment Gains	232,460,430
Employer Amtz. Payment	124,252,030
Experience Gain	<u>123,738,427</u>
Incurred Decreases	480,450,887

Unfunded Liability 6/30/97 \$ 2,036,171,904

Board of Trustees

**LASERS**

September 15, 1997

The employer contribution rate established by the Public Retirement Systems' Actuarial Committee for the 1997-1998 plan year was 13.0%. The actual employer contribution rates determined by this valuation for the current plan year is 12.6%. The current adjusted rate is less 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. This year, the Market Value of Real Estate and Real Estate shares has been included with the Market Value of Equities in the Asset Valuation Method without adjustment for prior years. The Valuation Assets exclude the side-fund accounts for purposes of determining the employer contribution rate as illustrated on page 5 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. The current account balance is \$84,727,619.
- **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 ancillary benefits for members such as retiree COLA's. The benefit granted must be funded at 100% of actuarial cost. The actuarial cost of benefits granted is deducted from the fund and transferred to Valuation Assets. The current balance is \$212,947,917.

#### **Investment Experience**

The investment yield on the actuarial value of assets during the last five (5) years has been as follows for plan years ending June 30:

<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>5 Yr. Aver.</u>
8.05%	8.88%	9.49%	12.34%	14.03%	10.85%

Board of Trustees

**LASERS**

September 15, 1997

The net actuarial rate of return assumed in the valuation was 8.25%. For the plan year ending June 30, 1997, the net realized actuarial rate of return was greater than the long-term investment assumption used to project benefits. The result was a net investment experience gain of \$232,460,430 above 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 1996-1997 plan year, the system incurred a \$123,738,427 experience gain 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 thirty-two (32) years. To determine whether this is a reasonable expectation, aggregate salary growth during the past eight (8) years is illustrated as follows:

<u>June 30</u>	<u>Payroll/\$1000</u>	<u>Percent Increase</u>
1990	1,226,065	7.4%
1991	1,368,480	11.6%
1992	1,454,370	6.3%
1993	1,504,147	6.2%
1994	1,546,465	5.7%
1995	1,547,977	0.1%
1996	1,584,357	2.4%
1997	1,607,371	1.5%

During the last seven (7) years the aggregate salaries have increased at an annualized rate of 3.9%. 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.

Board of Trustees

**LASERS**

September 15, 1997

Comments and Disclosures

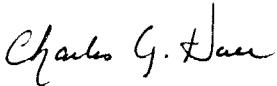
Exhibit 3, "Pension Accounting and Financial Disclosure", contains disclosure of the accrued liabilities under the Entry Age Normal Actuarial Cost Method required by the Governmental Accounting Standards Board Statement No. 25. Pension Benefit Obligation financial disclosure continues to be reported in Exhibit 7, Legislative Auditor's Report.

Finally, the actuarial disclosure form required by the Actuarial Department of the Legislative Auditor's office (see Exhibit 7) makes specific provisions for the determination of whether or not a retirement system is systematically approaching the targeted funding ratio. This is an important consideration for both retired members and members of the Board of Trustees. The Board is specifically prohibited from granting a cost-of-living raise in the absence of the Experience Account Fund to retirees and survivors by Act 256 of the 1986 regular legislative session unless the system has met the Funding Target.

For the plan year ending June 30, 1997 the funding target is .72710, which is greater than the current .68623 funding ratio. Therefore, the Board is prohibited from granting a cost-of-living increase by statute. However, there are sufficient assets in the Experience Account for the Board of Trustees to consider a COLA for current retirees.

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,



Charles G. Hall, FCA, MAAA, ASA  
Actuary

CGH/tt

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.

		<u>June 30, 1997</u>		<u>---Prior Year---</u> <u>June 30, 1996</u>	
		<u>Dollar</u>	<u>% of</u>	<u>Dollar</u>	<u>% of</u>
		<u>Amount</u>	<u>Salary</u>	<u>Amount</u>	<u>Salary</u>
<b>I. Normal Costs</b>					
(to fund annual pension accruals)					
Active Members with Complete Data					
a)	Retirement Benefits	\$ 169,719,582	10.56%	\$ 164,027,412	10.35%
b)	Disability Benefits	8,277,455	.51%	8,134,065	.51%
c)	Survivor Benefits	9,594,561	.60%	9,395,783	.59%
d)	Voluntary Termination	28,877,090	1.80%	28,780,555	1.82%
e)	Expenses	<u>4,500,000</u>	<u>.28%</u>	<u>4,400,000</u>	<u>.28%</u>
	TOTAL	220,968,688	13.75%	214,737,815	13.55%
<b>II. Actuarial Accrued Liability</b>					
a)	Active Members				
1)	Retirement Benefits	2,610,787,539		2,516,299,921	
2)	Disability Benefits	111,293,779		107,683,774	
3)	Survivor Benefits	105,958,893		103,113,198	
4)	Voluntary Termination	<u>188,088,156</u>		<u>181,796,301</u>	
		3,016,128,367		2,908,893,194	
b)	Retired and Inactive Members				
1)	Regular Retirees	2,336,003,925		2,203,081,857	
2)	Disabled Retirees	81,989,907		78,753,242	
3)	Survivors	304,265,655		249,558,225	
4)	Vested Deferred	38,225,529		36,302,354	
5)	Contributions Refunded	15,661,545		13,561,804	
6)	DROP Deferral	531,834,866		524,638,192	
7)	DROP Deposits	<u>86,171,651</u>		<u>65,514,390</u>	
		3,394,153,078		3,271,410,064	
c)	SUB TOTAL	6,410,281,445		6,180,303,258	

**Exhibit 1 (Continued)**

**Costs, Liabilities & Contributions**

	<u>June 30, 1997</u>	<u>---Prior Year---</u> <u>June 30, 1996</u>
<b>II. Actuarial Accrued Liability</b>		
c) SUB TOTAL (Preceding page)	\$ 6,410,281,445	\$ 6,180,303,258
d) Adjustments to Regular Plan		
1) Active Judges	73,287,898	69,402,926
2) Active Legislators	<u>5,791,794</u>	<u>4,699,079</u>
Adjusted TOTAL	6,489,361,137	6,254,405,263
<b>III. Valuation Assets</b>	4,453,189,233	4,040,840,039
<b>IV. Unfunded Actuarial Accrued Liabilities - Projected Unit Credit*</b>		
a) Change over prior year	(177,393,320)	129,284,668
b) Funded Percentage	68.6%	64.6%
<b>V. Employer Contributions To Fund Current Plan Year*</b>		
a) Employer Portion of Normal Cost	94,699,978	90,388,678
b) Amortization Payments	110,425,607	118,237,731
c) Prior Contribution Variance	<u>808,653</u>	<u>(2,750,801)</u>
TOTAL Required Contribution	205,934,238 12.6%	205,875,608 12.8%
Plus State Appropriation	4,113,643	3,936,500
Actuarial Forecast Rate**	13.0%	12.4%
<b>VI. Projected Employer Contributions To Fund Next Plan Year*</b>		
a) Employer Portion of Normal Cost	99,241,989	94,647,449
b) Amortization Payments	115,007,696	123,171,395
c) Prior Contribution Variance	<u>(1,544,214)</u>	<u>1,538,269</u>
TOTAL Projected Contribution	212,705,471 12.4%	219,357,113 13.0%
Plus State Appropriation	4,298,757	4,113,643
<b>VII. Current Payroll</b>	1,607,371,721	1,584,357,131
Projected Payroll - Mid Year	1,633,534,173	1,610,224,805
Projected Payroll - Next Year	1,711,881,924	1,686,092,480

\*Dollar Amounts reflect estimated payments due mid-year on January 1st per Act 81.

\*\*Constitutional Minimum is 12% without regards to Employer Credits.

**EXHIBIT 2**

**FINANCIAL SUMMARY  
STATEMENT OF REVENUES AND EXPENSES  
FOR FISCAL YEAR ENDING**

	<u>June 30, 1997</u>	<u>-----Prior Years----- June 30, 1996</u>	<u>June 30, 1995</u>
<b><u>OPERATING REVENUES:</u></b>			
1. Contribution Income			
Member	\$ 126,793,791	\$ 126,073,816	\$ 123,370,058
Employer	204,985,747	197,456,874	191,640,907
2. Other Income			
Legislative Appropriations	3,936,500	3,766,986	3,604,770
Miscellaneous	4,963,350	21,926,336	8,527,568
Texaco Settlement	<u>0</u>	<u>13,817,580</u>	<u>13,817,572</u>
TOTAL CONTRIBUTIONS	340,679,388	363,041,592	340,960,875
3. Investment Income			
Realized Income	500,838,741	341,738,080	326,010,399
Less, investment expenses	<u>-15,143,892</u>	<u>-13,318,452</u>	<u>-9,006,271</u>
TOTAL INVESTMENT INCOME	485,694,849	328,419,628	317,004,128
4. Total Revenues	826,374,237	691,461,220	657,965,003
<b><u>OPERATING EXPENSES:</u></b>			
1. General Administration	4,531,466	4,390,986	4,740,662
Other Expenses	2,242,442	2,277,969	1,724,914
2. Benefits Paid			
a) Pension Benefits	340,052,578	317,340,115	288,641,870
b) Return of Contrib.	<u>28,945,409</u>	<u>27,222,153</u>	<u>25,072,191</u>
TOTAL BENEFITS PAID	368,997,987	344,562,268	313,714,061
3. Total Operating Expenses	375,771,895	351,231,223	320,179,637
<b><u>NET INCOME:</u></b>	450,602,342	340,229,997	337,785,366

**EXHIBIT 2 (Continued)**  
**Financial Summary**

**FINANCIAL SUMMARY**  
**STATEMENT OF ASSETS**  
**FOR FISCAL YEAR ENDING**

	<u>June 30, 1997</u>	-----Prior Years----- <u>June 30, 1996</u>	<u>June 30, 1995</u>
<b><u>ASSETS:</u></b>			
1. Short Term Assets			
Cash in Banks	\$ 423,674	\$ 16,756,002	\$ 4,251,287
Commercial/Certificates	113,035,491	201,190,847	364,705,647
2. Bonds (at amortized cost)			
Bonds - General	561,276,044	564,323,818	429,276,224
U.S. Government Obligations	376,428,049	452,065,736	475,445,160
Corporate Issues	735,216,959	551,893,318	486,316,385
Foreign Issues	431,740,006	445,141,245	425,549,456
3. Equities			
Common Stock	1,197,413,638	921,513,676	852,538,701
Foreign Stock	632,526,281	516,319,282	325,379,577
4. Other Assets			
Fixed Assets	8,120,205	6,064,694	6,236,436
Mortgages - Real Estate	134,573,851	123,048,222	110,561,776
5. Receivables - Payables	<u>213,132,809</u>	<u>154,967,825</u>	<u>132,794,018</u>
TOTAL ASSETS			
Equities at Cost	4,403,887,007	3,953,284,665	3,613,054,668
Equities at Market	5,041,143,224	4,350,524,222	3,820,111,450
Market Value	5,044,261,699	4,346,883,205	3,789,451,813

<b><u>RATIO: ASSETS/EXPENSES:</u></b>	11.75	11.26	11.28
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**INVESTMENT YIELD:**

Realized Income	12.34%	9.09%	9.67%
Yield to Actuarial Value	14.03%	12.34%	9.49%
Five Year Actuarial Value	10.85%	10.14%	9.67%
Yield to Market Value	16.92%	14.40%	14.66%
DROP Account Yield	13.53%	11.84%	8.99%

**EXHIBIT 2 (Continued)**  
**Financial Summary**

**FINANCIAL SUMMARY**  
**STATEMENT OF ASSETS**  
**FOR FISCAL YEAR ENDING**

	<u>June 30, 1997</u>	<u>-----Prior Years-----</u> <u>June 30, 1996</u>	<u>June 30, 1995</u>
<b><u>ACTUARIAL VALUE OF ASSETS:</u></b>			
TOTAL ASSETS	\$ 5,041,143,224	\$ 4,350,524,222	\$ 3,820,111,451
Change in Unrealized (G/L)			
Plan Year - 2 (wt. 1/4)	60,698,290	(86,962,921)	167,766,189
Plan Year - 1 (wt. 2/4)	190,182,775	60,698,290	(84,265,543)
Plan Year (wt. 3/4)	<u>240,016,660</u>	<u>190,182,775</u>	<u>123,556,136</u>
Actuarial Value of Assets	4,750,864,769	4,199,278,726	3,727,635,572

**TEXACO SETTLEMENT FUND:**

Prior Year Ending Balance	73,620,589	53,234,368	36,000,000
+ Current Year Allocation	682,619*	13,817,580	13,817,572
+ Accumulated Interest	<u>10,424,411</u>	<u>6,568,641</u>	<u>3,416,796</u>
Fund Balance - Year End	84,727,619	73,620,589	53,234,368

**EXPERIENCE ACCOUNT FUND:**

Prior Year Ending Balance	84,818,098	61,772,504	37,627,187
+ Experience Account Allocation	116,230,215	73,840,631	20,574,083
- Benefit Disbursements	0	58,417,207	0
+ Accumulated Interest	<u>11,899,604</u>	<u>7,622,170</u>	<u>3,571,234</u>
Fund Balance - Year End	212,947,917	84,818,098	61,772,504

**DEVELOPMENT OF ACTUARIAL**  
**VALUATION ASSETS**

Total Actuarial Value of Assets Adjusted for:	4,750,864,769	4,199,278,726	3,727,635,572
Texaco Settlement Fund	-84,727,619	-73,620,589	-53,234,368
Experience Account Fund	<u>-212,947,917</u>	<u>-84,818,098</u>	<u>-61,772,504</u>
Valuation Assets	4,453,189,233	4,040,840,039	3,612,628,700

\*The June 30, 1994 initial allocation was under-reported by \$555,012. The current allocation for June 30, 1997 is the under-reported amount plus interest accumulated to June 30, 1996.

**EXHIBIT 3**

**PENSION ACCOUNTING  
AND  
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**

(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets <sup>1</sup> (a)	Actuarial Accrued Liability(AAL) (b)	Unfunded AAL (UAAL) <sup>1</sup> (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Payroll ((b-a)/c)
1988	2,019,832	3,845,253	1,825,421	52.5	1,111,015	159.0
1989	2,179,402	4,021,933	1,848,531	54.0	1,141,080	162.0
1990	2,321,259	4,210,107	1,888,848	55.1	1,226,065	154.1
1991	2,516,742	4,499,312	1,982,570	55.9	1,368,480	144.9
1992	2,802,667	4,884,509	2,081,842	57.4	1,454,371	143.1
1993	3,044,727	5,123,410	2,078,683	59.4	1,504,147	138.2
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

The total actuarial accrued liability determined using the Projected Unit Credit cost method increased by \$234,955,874 from June 30, 1996 to June 30, 1997. There were no changes in benefit provisions during the year. There was a net experience gain of \$239,190,250 after allocating \$116,230,215 of excess investment income to the Experience Account in accordance with Act 1031.

<sup>1</sup>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**

<u>Fiscal Year</u>	<u>Actuarial Required Contribution</u>	<u>Percent Contributed</u>	<u>Annual Pension Cost (APC)</u>	<u>Actual Contribution</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation*</u>
1991	106,397,079	101.2	102,478,348	107,700,340	105.1	1,303,263
1992	198,167,515	105.5	199,470,778	208,989,801	104.8	-11,259,859
1993	183,507,210	98.5	186,235,605	180,708,603	97.0	- 6,438,324
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	97.3	1,922,284

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 page 24).

\*Actuarial Contributions, the Annual Pension Cost (APC), and the actual employer contribution made have been adjusted with interest at the valuation rate to the end of the fiscal year in accordance with GASB's Statement No. 25.

**EXHIBIT 3 (Continued)**

**Pension Accounting & Financial Disclosure**

**STATISTICAL DATA**

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

**Revenues by Source**

<u>Fiscal Year</u>	<u>Members Contribution</u>	<u>Employer Contribution</u>	<u>Investment Income</u>	<u>Total</u>
1988	81,197,631	125,430,030	160,911,687	375,065,821
1989	81,925,366	134,314,360	181,179,170	397,418,896
1990	92,339,927	99,536,184	206,633,219	398,509,330
1991	104,020,927	149,859,389	225,267,421	479,147,276
1992	110,481,391	214,125,413	273,259,377	598,259,377
1993	114,443,629	186,827,419	179,402,382	480,673,430
1994	118,255,907	227,669,691	238,487,231	584,412,829
1995	123,370,058	217,590,817	317,004,128	657,965,003
1996	126,073,816	236,967,776	328,419,628	691,461,220
1997	126,793,791	213,885,597	485,694,849	826,374,237

**Expenses by Type**

<u>Fiscal Year</u>	<u>Benefits</u>	<u>Refunds</u>	<u>Administrative Expenses*</u>	<u>Total</u>
1988	223,013,862	24,792,168	1,904,259	249,710,289
1989	228,603,084	32,548,038	2,267,848	263,418,970
1990	234,066,890	26,880,996	2,577,670	263,525,556
1991	240,622,226	22,955,119	3,145,390	266,722,735
1992	250,765,789	23,820,931	3,494,170	278,080,890
1993	261,822,720	21,720,224	4,702,924	288,245,868
1994	275,503,281	23,955,748	5,724,497	305,183,526
1995	288,641,870	25,072,191	6,465,576	320,179,637
1996	317,340,115	27,222,153	6,668,955	351,231,223
1997	340,052,578	28,945,409	6,773,908	375,771,895

\*Includes other expenses incurred not directly related to the administration of daily operation.



## EXHIBIT 4

## CENSUS DATA

## GENERAL COMMENTS

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 22,615 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:

	---1997---	---1996---
	<u>Census</u>	<u>Census</u>
Active Members	69,444	69,680
Regular Retirees	21,839	21,297
Disability Retirees	1,119	1,111
Survivors	4,808	4,620
Vested & Reciprocals	1,030	1,002
Due Refunds	22,615	21,768
DROP Participants	<u>2,562</u>	<u>2,320</u>
 TOTAL	 123,417	 121,798

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
ACTIVE REGULAR MEMBERS

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
[ 0 - 19) :	269	43	0	0	1	0	0	0	0	:	313 :
:	1099310	428952	0	0	2144	0	0	0	0	:	1530406 :
[20 - 24) :	863	1230	31	0	0	0	0	0	0	:	2124 :
:	5165077	16515493	425188	0	0	0	0	0	0	:	22105757 :
[25 - 29) :	1250	3977	700	29	0	0	0	0	0	:	5956 :
:	9432251	74202906	13897520	568564	0	0	0	0	0	:	98101241 :
[30 - 34) :	949	3388	2139	976	220	0	0	1	0	:	7673 :
:	7652955	66515249	50107273	22011513	5259879	0	0	4378	0	:	151551247 :
[35 - 39) :	971	3400	1890	1823	2353	193	2	1	3	:	10636 :
:	7960933	69121626	44770641	47980029	61385464	5111815	57704	18768	52639	:	236459620 :
[40 - 44) :	689	3060	1778	1532	2851	1673	101	1	1	:	11686 :
:	5395469	63816943	43686794	40588563	84182332	50793986	3022365	25697	11484	:	291523633 :
[45 - 49) :	518	2369	1637	1303	1954	2257	1091	12	2	:	11143 :
:	4903784	50391094	40961374	35156126	55990444	74904075	36310258	326351	93173	:	299036678 :
[50 - 54) :	310	1429	1091	912	1290	1209	1021	100	3	:	7365 :
:	2635805	30688204	27066663	24788598	36769915	37689801	35565647	3506335	83884	:	198794851 :
[55 - 59) :	130	647	732	604	861	730	163	100	17	:	3984 :
:	1171492	14046933	18117205	16291595	23980116	21342930	5325119	3403973	534602	:	104213964 :
[60 - 64) :	26	195	416	214	281	155	81	56	19	:	1443 :
:	426320	4838588	10726098	6362721	7506224	4127087	2640172	2125204	824544	:	39576958 :
[65 - 69) :	7	28	102	67	77	42	27	7	9	:	366 :
:	77205	1033936	2414252	2074437	2306479	1233765	723840	252307	380853	:	10497075 :
[70 - 74) :	5	11	3	36	44	40	21	10	6	:	176 :
:	39627	452839	55461	1038816	1274244	1010600	642861	262492	148018	:	4924958 :
Total :	5987	19777	10519	7496	9932	6299	2507	288	60	:	62865 :
Total :	45960228	392052761	252228469	196860962	278657240	196214060	84287965	9925506	2129197	:	1458316387 :

AVERAGES :    Attained Age    41.94  
                  Service Years    9.99  
                  Active Salary    23,198

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
ACTIVE LEGISLATORS

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
[ 0 - 19) :	0	1	0	0	0	0	0	0	0	:	1 :
:	0	27900	0	0	0	0	0	0	0	:	27900 :
:										:	:
[20 - 24) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[25 - 29) :	0	2	0	0	0	0	0	0	0	:	2 :
:	0	49950	0	0	0	0	0	0	0	:	49950 :
:										:	:
[30 - 34) :	0	1	1	0	0	0	0	0	0	:	2 :
:	0	27225	24825	0	0	0	0	0	0	:	52050 :
:										:	:
[35 - 39) :	0	2	6	0	0	0	0	0	0	:	8 :
:	0	49050	179850	0	0	0	0	0	0	:	228900 :
:										:	:
[40 - 44) :	1	4	8	2	0	0	0	0	0	:	15 :
:	16550	104250	202200	50550	0	0	0	0	0	:	373550 :
:										:	:
[45 - 49) :	0	8	7	3	2	0	0	0	1	:	21 :
:	0	199425	175575	81300	48150	0	0	0	25575	:	530025 :
:										:	:
[50 - 54) :	1	1	4	2	4	4	0	0	0	:	16 :
:	18575	25200	98400	49575	101925	103425	0	0	0	:	397100 :
:										:	:
[55 - 59) :	0	1	5	2	2	2	2	0	0	:	14 :
:	0	24450	132150	52125	71978	47025	73742	0	0	:	401470 :
:										:	:
[60 - 64) :	0	7	3	0	0	0	0	0	0	:	10 :
:	0	180230	129206	0	0	0	0	0	0	:	309436 :
:										:	:
[65 - 69) :	0	0	0	0	1	0	2	0	0	:	3 :
:	0	0	0	0	30625	0	52275	0	0	:	82900 :
:										:	:
[70 - 74) :	0	0	2	0	0	0	0	0	0	:	2 :
:	0	0	80200	0	0	0	0	0	0	:	80200 :
:										:	:
Total :	2	27	36	9	9	6	4	0	1	:	94 :
Total :	35125	687680	1022406	233550	252678	150450	126017	0	25575	:	2533481 :

AVERAGES :    Attained Age    49.92  
                  Service Years    29.97  
                  Active Salary    26,952

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
ACTIVE JUDGES

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
.....											
[ 0 - 19) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[20 - 24) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[25 - 29) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[30 - 34) :	2	3	0	0	0	0	0	0	0	:	5 :
:	96129	225106	0	0	0	0	0	0	0	:	321235 :
:										:	:
[35 - 39) :	9	15	4	1	1	0	0	0	0	:	30 :
:	370436	1135232	336571	57962	68161	0	0	0	0	:	1968362 :
:										:	:
[40 - 44) :	17	23	24	5	3	0	0	0	0	:	72 :
:	802692	1812823	2000745	445982	215104	0	0	0	0	:	5277346 :
:										:	:
[45 - 49) :	11	23	19	15	9	3	0	0	0	:	80 :
:	476195	1775449	1571939	1212846	722444	267675	0	0	0	:	6026548 :
:										:	:
[50 - 54) :	4	9	14	12	27	3	0	0	0	:	69 :
:	178800	810999	1203200	1012585	2381738	287435	0	0	0	:	5874757 :
:										:	:
[55 - 59) :	7	5	8	7	6	5	1	0	0	:	39 :
:	346863	417932	699089	629775	540772	441636	89225	0	0	:	3165292 :
:										:	:
[60 - 64) :	2	2	4	5	9	6	3	0	0	:	31 :
:	89400	178450	356900	447759	702570	511368	279704	0	0	:	2566151 :
:										:	:
[65 - 69) :	0	0	1	2	1	2	3	3	1	:	13 :
:	0	0	94425	178450	94425	178450	312692	310967	118274	:	1287682 :
:										:	:
[70 - 74) :	0	0	0	1	0	0	0	0	0	:	1 :
:	0	0	0	70644	0	0	0	0	0	:	70644 :
:										:	:
Total :	52	80	74	48	56	19	7	3	1	:	340 :
Total :	2360515	6355991	6262869	4056003	4725214	1686564	681620	310967	118274	:	26558016 :
.....											

AVERAGES :   Attained Age     49.74  
              Service Years     9.26  
              Active Salary    78,112

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
ACTIVE WILDLIFE AGENTS

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
[ 0 - 19) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[20 - 24) :	0	2	0	0	0	0	0	0	0	:	2 :
:	0	36935	0	0	0	0	0	0	0	:	36935 :
:										:	:
[25 - 29) :	2	27	4	0	0	0	0	0	0	:	33 :
:	39045	623925	108676	0	0	0	0	0	0	:	771646 :
:										:	:
[30 - 34) :	1	11	22	5	0	0	0	0	0	:	39 :
:	15376	227936	583102	153700	0	0	0	0	0	:	980114 :
:										:	:
[35 - 39) :	1	6	12	8	8	0	0	0	0	:	35 :
:	11030	146606	277956	240654	259309	0	0	0	0	:	935555 :
:										:	:
[40 - 44) :	0	1	2	3	16	4	0	0	0	:	26 :
:	0	21215	56332	98915	529858	147674	0	0	0	:	853994 :
:										:	:
[45 - 49) :	0	0	2	8	11	5	0	0	0	:	26 :
:	0	0	54362	256783	369764	176142	0	0	0	:	857051 :
:										:	:
[50 - 54) :	0	0	2	5	8	3	0	0	0	:	18 :
:	0	0	61789	155472	265865	118123	0	0	0	:	601249 :
:										:	:
[55 - 59) :	0	0	0	1	3	0	0	0	0	:	4 :
:	0	0	0	28656	103178	0	0	0	0	:	131834 :
:										:	:
[60 - 64) :	0	0	0	2	0	1	0	0	0	:	3 :
:	0	0	0	59850	0	31896	0	0	0	:	91746 :
:										:	:
[65 - 69) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[70 - 74) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
Total :	4	47	44	32	46	13	0	0	0	:	186 :
Total :	65451	1056617	1142217	994030	1527974	473835	0	0	0	:	5260124 :

AVERAGES :    Attained Age    38.85  
                  Service Years    10.49  
                  Active Salary    28,280

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
CORRECTIONS before 1986

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
[ 0 - 19) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[20 - 24) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[25 - 29) :	0	0	0	2	0	0	0	0	0	:	2 :
:	0	0	0	46395	0	0	0	0	0	:	46395 :
:										:	:
[30 - 34) :	0	0	0	78	24	0	0	0	0	:	102 :
:	0	0	0	2006691	648608	0	0	0	0	:	2655299 :
:										:	:
[35 - 39) :	0	0	0	130	128	4	0	0	0	:	262 :
:	0	0	0	3449528	3581428	152020	0	0	0	:	7182976 :
:										:	:
[40 - 44) :	0	0	0	96	175	23	2	0	0	:	296 :
:	0	0	0	2467471	5102892	762634	59073	0	0	:	8392069 :
:										:	:
[45 - 49) :	0	0	0	107	129	35	11	0	0	:	282 :
:	0	0	0	2756469	3627715	1504288	540578	0	0	:	8429049 :
:										:	:
[50 - 54) :	0	0	0	70	78	15	12	1	0	:	176 :
:	0	0	0	1800826	2238865	560790	476010	47336	0	:	5123827 :
:										:	:
[55 - 59) :	0	0	0	46	54	6	1	4	0	:	111 :
:	0	0	0	1222142	1469405	147363	39682	145018	0	:	3023610 :
:										:	:
[60 - 64) :	0	0	0	9	19	0	2	0	1	:	31 :
:	0	0	0	242520	491697	0	73413	0	55361	:	862991 :
:										:	:
[65 - 69) :	0	0	0	2	5	1	0	0	1	:	9 :
:	0	0	0	47768	121178	24600	0	0	67026	:	260572 :
:										:	:
[70 - 74) :	0	0	0	0	0	0	0	0	1	:	1 :
:	0	0	0	0	0	0	0	0	88943	:	88943 :
:										:	:
Total :	0	0	0	540	612	84	28	5	3	:	1272 :
Total :	0	0	0	14039809	17281788	3151695	1188757	192354	211330	:	36065733 :

AVERAGES :    Attained Age    45.19  
                  Service Years    16.10  
                  Active Salary    28,354

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
CORRECTIONS after 1986

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	:	Total :
[ 0 - 19) :	112	0	0	0	0	0	0	0	0	:	112 :
:	497778	0	0	0	0	0	0	0	0	:	497778 :
:										:	:
[20 - 24) :	254	380	6	0	0	0	0	0	0	:	640 :
:	1452703	5479463	101832	0	0	0	0	0	0	:	7033998 :
:										:	:
[25 - 29) :	267	576	185	4	0	0	0	0	0	:	1032 :
:	1749824	9778608	3646285	91386	0	0	0	0	0	:	15266103 :
:										:	:
[30 - 34) :	131	289	341	38	0	0	0	0	0	:	799 :
:	726639	4688441	7210363	843883	0	0	0	0	0	:	13469327 :
:										:	:
[35 - 39) :	140	197	223	37	0	0	0	0	0	:	597 :
:	737380	3264765	4746856	865219	0	0	0	0	0	:	9614220 :
:										:	:
[40 - 44) :	58	145	188	23	0	0	0	0	0	:	414 :
:	421426	2466143	4083127	553784	0	0	0	0	0	:	7524479 :
:										:	:
[45 - 49) :	69	119	170	23	0	0	0	0	0	:	381 :
:	407664	2049307	3710276	542522	0	0	0	0	0	:	6709769 :
:										:	:
[50 - 54) :	31	58	99	19	0	0	0	0	0	:	207 :
:	257784	951992	2182124	436631	0	0	0	0	0	:	3828532 :
:										:	:
[55 - 59) :	24	30	54	6	0	0	0	0	0	:	114 :
:	144457	521801	1103129	128201	0	0	0	0	0	:	1897588 :
:										:	:
[60 - 64) :	1	7	30	8	0	0	0	0	0	:	46 :
:	9779	136310	631319	183821	0	0	0	0	0	:	961229 :
:										:	:
[65 - 69) :	0	0	1	0	0	0	0	0	0	:	1 :
:	0	0	20378	0	0	0	0	0	0	:	20378 :
:										:	:
[70 - 74) :	0	1	0	0	0	0	0	0	0	:	1 :
:	0	14494	0	0	0	0	0	0	0	:	14494 :
:										:	:
Total :	1087	1802	1297	158	0	0	0	0	0	:	4344 :
Total :	6405434	29351325	27435689	3645447	0	0	0	0	0	:	66837895 :

AVERAGES :    Attained Age    34.38  
                  Service Years    3.74  
                  Active Salary    15,386

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS RETIRED

STATE EMPLOYEES' SYSTEM  
REGULAR RETIREES

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
[ 0 - 39) :	3	1	0	0	0	1	0	0	0	:	5 :
:	40146	16599	0	0	0	5485	0	0	0	:	62230 :
:										:	:
[40 - 44) :	30	29	6	8	2	4	1	0	0	:	80 :
:	321821	362282	95992	118592	32475	59419	17842	0	0	:	1008423 :
:										:	:
[45 - 49) :	57	78	10	9	10	12	2	0	0	:	178 :
:	719785	981306	163113	131817	192901	170990	66344	0	0	:	2426256 :
:										:	:
[50 - 54) :	118	204	65	51	23	43	25	0	0	:	529 :
:	2307492	3461490	1307073	1001014	408614	763995	365640	0	0	:	9615318 :
:										:	:
[55 - 59) :	222	369	202	163	148	178	352	4	0	:	1638 :
:	4551262	6065692	4171252	3430892	2844344	3143414	5919619	42124	0	:	30168599 :
:										:	:
[60 - 64) :	372	438	378	273	268	588	1350	78	15	:	3760 :
:	5871793	6090832	5108780	3845055	4041818	8673735	19961087	775259	93748	:	54462106 :
:										:	:
[65 - 69) :	177	260	300	317	354	1184	1704	322	56	:	4674 :
:	3099153	3746613	3821769	3726234	4355581	13000462	23805783	4215028	414168	:	60184791 :
:										:	:
[70 - 74) :	36	52	77	112	169	989	2069	781	182	:	4467 :
:	624736	912138	1556518	1568375	2579650	10050792	23524240	10323422	1912629	:	53052500 :
:										:	:
[75 - 79) :	9	12	9	21	20	246	1328	1352	373	:	3370 :
:	209698	209408	161436	371359	351622	3061158	14785381	13459785	4345405	:	36955251 :
:										:	:
[80 - 84) :	1	2	2	0	0	13	274	811	774	:	1877 :
:	8368	48347	57376	0	0	189070	3201460	6862157	6922737	:	17289515 :
:										:	:
[85 - 89) :	0	0	0	0	0	1	7	57	829	:	894 :
:	0	0	0	0	0	21461	139635	647409	6351239	:	7159744 :
:										:	:
[90 - 99) :	0	0	0	0	0	0	1	3	363	:	367 :
:	0	0	0	0	0	0	35957	20769	2568982	:	2625708 :
:										:	:
Total :	1025	1445	1049	954	994	3259	7113	3408	2592	:	21839 :
Total :	17754255	21894708	16443308	14193338	14807004	39139981	91822988	36345953	22608909	:	275010443 :

AVERAGES :    Attained Age    70.36  
                   Years Retired    11.12  
                   Annual Benefit   12,593



# HALL ACTUARIAL ASSOCIATES

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

STATE EMPLOYEES' SYSTEM  
DISABILITY RETIREES

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
[ 0 - 39) :	9	9	8	3	8	7	0	0	0	:	44 :
:	71317	68332	52932	15476	49113	35117	0	0	0	:	292287 :
:										:	:
[40 - 44) :	15	16	22	17	7	23	9	0	0	:	109 :
:	158110	155778	194240	145077	49500	135607	47735	0	0	:	886047 :
:										:	:
[45 - 49) :	27	34	30	16	21	52	18	2	0	:	200 :
:	374307	371126	361221	144501	210270	404788	122025	11750	0	:	1999988 :
:										:	:
[50 - 54) :	28	36	38	37	39	99	52	10	3	:	342 :
:	287416	422039	400290	346450	357463	764265	419083	55829	12189	:	3065024 :
:										:	:
[55 - 59) :	33	53	41	39	35	119	63	23	6	:	412 :
:	319300	477027	364847	323026	265356	870707	480032	173445	27282	:	3301022 :
:										:	:
[60 - 64) :	0	1	0	1	0	7	2	0	0	:	11 :
:	0	6404	0	8698	0	111134	12482	0	0	:	138718 :
:										:	:
[65 - 69) :	0	0	0	0	0	0	0	1	0	:	1 :
:	0	0	0	0	0	0	0	21309	0	:	21309 :
:										:	:
[70 - 74) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[75 - 79) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[80 - 84) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[85 - 89) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[90 - 99) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
Total :	112	149	139	113	110	307	144	36	9	:	1119 :
Total :	1210450	1500706	1373530	983228	931702	2321618	1081357	262333	39471	:	9704396 :

AVERAGES :    Attained Age    52.15  
                  Years Retired    5.61  
                  Annual Benefit   8,672

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS RETIRED

## STATE EMPLOYEES' SYSTEM SURVIVOR BENEFITS

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
[ 0 - 39) :	6	3	7	1	6	14	10	8	2	:	57 :
:	118929	62394	81632	12128	90012	159311	94781	58586	10506	:	688279 :
:										:	:
[40 - 44) :	5	7	3	3	4	20	11	1	4	:	58 :
:	94692	116854	56149	35638	50283	255102	109817	8402	20388	:	747325 :
:										:	:
[45 - 49) :	2	5	6	10	6	27	29	11	2	:	98 :
:	15367	65888	80012	155228	67129	334356	329098	85953	7560	:	1140591 :
:										:	:
[50 - 54) :	10	17	17	25	13	64	66	22	12	:	246 :
:	191122	325268	274639	322364	174921	720762	672032	164280	60546	:	2905934 :
:										:	:
[55 - 59) :	8	12	13	16	13	65	89	50	17	:	283 :
:	101193	214486	183845	257583	229778	833760	959740	329542	102411	:	3212339 :
:										:	:
[60 - 64) :	19	25	24	24	25	115	171	80	43	:	526 :
:	241220	394399	308845	303798	367611	1357391	1595677	591406	289873	:	5450220 :
:										:	:
[65 - 69) :	10	16	12	14	10	100	244	166	110	:	682 :
:	133295	211970	150201	163940	211794	923534	2288323	1297134	685931	:	6066122 :
:										:	:
[70 - 74) :	5	7	5	9	7	67	258	290	221	:	869 :
:	55129	59986	50034	141264	80340	686521	2309452	2268992	1382795	:	7034513 :
:										:	:
[75 - 79) :	2	2	1	0	2	28	126	295	357	:	813 :
:	64935	28209	5940	0	36549	332741	1118127	2105831	2108684	:	5801016 :
:										:	:
[80 - 84) :	0	1	1	0	1	1	36	156	442	:	638 :
:	0	12458	10204	0	27975	7738	273723	1146262	2619412	:	4097772 :
:										:	:
[85 - 89) :	0	0	0	0	0	1	9	23	341	:	374 :
:	0	0	0	0	0	5981	57820	135976	1957038	:	2156815 :
:										:	:
[90 - 99) :	0	0	0	0	0	0	2	5	157	:	164 :
:	0	0	0	0	0	0	17060	40176	853306	:	910542 :
:										:	:
Total :	67	95	89	102	87	502	1051	1107	1708	:	4808 :
Total :	1015882	1491912	1201501	1391943	1336392	5617198	9825650	8232540	10098450	:	40211467 :

AVERAGES :    Attained Age       71.48  
                 Years Retired       16.71  
                 Annual Benefit     8,363

# HALL ACTUARIAL ASSOCIATES

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
TERM-VESTED/RECIPROCAL

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
[ 0 - 39) :	1	0	0	0	0	0	0	0	0	:	1 :
:	44	0	0	0	0	0	0	0	0	:	44 :
:										:	:
[40 - 44) :	3	7	1	0	0	0	0	0	0	:	11 :
:	319	2763	2815	0	0	0	0	0	0	:	5897 :
:										:	:
[45 - 49) :	4	18	3	0	0	0	1	0	0	:	26 :
:	174	11126	3481	0	0	0	3291	0	0	:	18072 :
:										:	:
[50 - 54) :	2	13	8	19	1	0	0	0	0	:	43 :
:	141	9651	22129	76738	2875	0	0	0	0	:	111534 :
:										:	:
[55 - 59) :	0	6	6	49	58	2	0	0	0	:	121 :
:	0	2250	23943	298334	466276	17836	0	0	0	:	808639 :
:										:	:
[60 - 64) :	1	3	3	43	88	32	4	0	0	:	174 :
:	256	1454	16319	280222	788977	297692	17971	0	0	:	1402891 :
:										:	:
[65 - 69) :	2	2	2	45	76	79	17	5	0	:	228 :
:	238	249	26526	392658	693092	855747	232067	37456	0	:	2238033 :
:										:	:
[70 - 74) :	1	4	6	35	60	37	34	15	0	:	192 :
:	39	1389	23111	232118	660909	393582	436347	161940	0	:	1909435 :
:										:	:
[75 - 79) :	0	0	2	21	52	41	14	18	2	:	150 :
:	0	0	14199	166501	501779	384370	162063	169373	15516	:	1413801 :
:										:	:
[80 - 84) :	0	0	0	5	11	3	4	1	6	:	30 :
:	0	0	0	23346	72911	27141	27076	6564	45801	:	202839 :
:										:	:
[85 - 89) :	0	1	1	2	2	1	2	6	1	:	16 :
:	0	738	2680	8739	20516	3594	23232	58613	2433	:	120545 :
:										:	:
[90 - 99) :	0	0	0	1	5	1	8	8	15	:	38 :
:	0	0	0	5707	36740	3316	84996	27696	74794	:	233249 :
:										:	:
Total :	14	54	32	220	353	196	84	53	24	:	1030 :
Total :	1211	29620	135203	1484363	3244075	1983278	987043	461642	138544	:	8464979 :

AVERAGES :    Attained Age    48.37  
                 Service Years    18.10  
                 Annual Benefit    8,218

# HALL ACTUARIAL ASSOCIATES

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

STATE EMPLOYEES' SYSTEM  
DROP PARTICIPANTS

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
[ 0 - 39) :	13	1	0	0	0	0	0	0	0	:	14 :
:	168180	16124	0	0	0	0	0	0	0	:	184304 :
:										:	:
[40 - 44) :	21	34	2	0	0	0	0	0	0	:	57 :
:	332693	514465	32172	0	0	0	0	0	0	:	879330 :
:										:	:
[45 - 49) :	75	61	15	0	0	0	0	0	0	:	151 :
:	1573446	1226563	296672	0	0	0	0	0	0	:	3096681 :
:										:	:
[50 - 54) :	202	247	64	0	0	0	0	0	0	:	513 :
:	5176276	5902934	1461498	0	0	0	0	0	0	:	12540709 :
:										:	:
[55 - 59) :	231	358	149	0	0	0	0	0	0	:	738 :
:	4855505	8196392	3604338	0	0	0	0	0	0	:	16656235 :
:										:	:
[60 - 64) :	307	354	147	0	0	0	0	0	0	:	808 :
:	3983254	4980769	2729609	0	0	0	0	0	0	:	11693633 :
:										:	:
[65 - 69) :	71	81	61	0	0	0	0	0	0	:	213 :
:	1216929	1158011	972732	0	0	0	0	0	0	:	3347672 :
:										:	:
[70 - 74) :	15	21	27	0	0	0	0	0	0	:	63 :
:	192373	373785	411895	0	0	0	0	0	0	:	978053 :
:										:	:
[75 - 79) :	0	2	3	0	0	0	0	0	0	:	5 :
:	0	24419	50946	0	0	0	0	0	0	:	75365 :
:										:	:
[80 - 84) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[85 - 89) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
[90 - 99) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	:
Total :	935	1159	468	0	0	0	0	0	0	:	2562 :
Total :	17498656	22393463	9559863	0	0	0	0	0	0	:	49451982 :

AVERAGES :    Attained Age    58.13  
                   Years Retired    1.29  
                   Annual Benefit   19,302

# HALL ACTUARIAL ASSOCIATES

## MEMBERSHIP PROFILE CATEGORIZED BY AGE AND YEARS EMPLOYED

STATE EMPLOYEES' SYSTEM  
ACTIVE AFTER DROP

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY  
DROP BENEFITS

VALUATION DATE 6/30/97

Age/Years :	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	:	Total :
.....											
[ 0 - 34) :	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:	0	0	0	0	0	0	0	0	0	:	0 :
:										:	
[35 - 39) :	0	1	0	0	0	0	0	0	0	:	1 :
:	0	18768	0	0	0	0	0	0	0	:	18768 :
:	0	13376	0	0	0	0	0	0	0	:	13376 :
:										:	
[40 - 44) :	5	0	0	0	0	0	0	0	0	:	5 :
:	105135	0	0	0	0	0	0	0	0	:	105135 :
:	83135	0	0	0	0	0	0	0	0	:	83135 :
:										:	
[45 - 49) :	4	2	0	0	0	0	0	0	0	:	6 :
:	617966	121322	0	0	0	0	0	0	0	:	739288 :
:	80504	44186	0	0	0	0	0	0	0	:	124690 :
:										:	
[50 - 54) :	32	8	0	0	0	0	0	0	0	:	40 :
:	1454278	242713	0	0	0	0	0	0	0	:	1696991 :
:	684768	166328	0	0	0	0	0	0	0	:	851096 :
:										:	
[55 - 59) :	58	6	8	0	1	0	0	0	0	:	73 :
:	2209740	206677	243190	0	22992	0	0	0	0	:	2682599 :
:	1374832	145002	153928	0	15408	0	0	0	0	:	1689170 :
:										:	
[60 - 64) :	63	25	18	3	0	0	0	0	0	:	109 :
:	2115377	1048176	673266	118770	0	0	0	0	0	:	3955589 :
:	1456245	660500	467136	73056	0	0	0	0	0	:	2656937 :
:										:	
[65 - 69) :	37	21	13	4	0	0	0	0	0	:	75 :
:	1292981	742849	499691	132521	0	0	0	0	0	:	2668042 :
:	888296	366765	289055	68948	0	0	0	0	0	:	1613064 :
:										:	
[70 - 74) :	14	8	6	5	1	0	0	0	0	:	34 :
:	426383	349921	145626	156369	8273	0	0	0	0	:	1086572 :
:	198240	175488	50970	69295	4797	0	0	0	0	:	498790 :
:										:	
.....											
Total :	213	71	45	12	2	0	0	0	0	:	343 :
Total :	8221861	2730426	1561773	407660	31265	0	0	0	0	:	12952985 :
Total :	4766020	1571645	961089	211299	20205	0	0	0	0	:	7530258 :
.....											

AVERAGES :   Attained Age     61.74  
              Post Drop Years   1.05  
              Active Salary     37,764  
              Annual Benefit    21,954

EXHIBIT 5

PRINCIPLE PROVISIONS OF THE PLAN  
(Including Acts of 1997 Regular Session)

**EFFECTIVE DATE:**

July 1, 1947; last amendment date - July 1, 1997.

**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 DOCT, 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 cancelled 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 Days	80% of a Year
209 - 234 Days	90% of a Year
235 - 260 Days	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, over-time 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)**  
**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:**

		<u>After June 30, 1989</u>
Individual Employees	7% of Compensation	7.5%
Agents of DOC	8.5% of Compensation	9.0%
WildLife Agents	8% of Compensation	8.5%
Legislators, Judges	11% of Compensation	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:**

- Written application to the Board and,
1. Member has attained age 60 and 10 years of accredited service, or age 55 and 25 years of accredited service, or at any age and 30 years of accredited service.
  2. Certain members of the Department of Public Safety and Corrections, 20 years of accredited service at any age (age 50 if employed after August 15, 1986, 20 years of service).
  3. Service as a judge or court officer, 18 years of creditable service regardless of age, or age 50 and 20 years of accredited service, or age 55 and 12 years of accredited service, or age 70 without regard to accredited 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 of accredited service with 12 years of such service, or age 55 with 12 years of such service.

**Benefit:**

1. Annual pension equal to 2 1/2 percent of average compensation for each year of creditable service, plus \$300 supplemental benefit.
2. Annual pension equal to 2 1/2 percent of average compensation for each year of creditable service, plus \$300 supplemental benefit.



**EXHIBIT 5 (Continued)**  
**Principle Provisions**

3. Annual pension equal to 3 1/2 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.

4. Annual pension equal to 3 1/2 percent of average compensation for each year of creditable service as a legislator, governor, lieutenant governor, employees of the legislature or state treasurer, plus benefit described in (1) above for other state service.

**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:

<u>AGE</u>	<u>MAXIMUM</u>	<u>AGE</u>	<u>MAXIMUM</u>	<u>AGE</u>	<u>MAXIMUM</u>
48	\$23,004	56	\$48,547	64	\$111,613
49	25,175	57	53,561	65	125,000
50	27,573	58	59,175	66	134,377
51	30,225	59	65,476	67	144,637
52	33,161	60	72,567	68	155,873
53	36,417	61	80,568	69	168,190
54	40,034	62	89,623	70	181,709
55	44,060	63	99,903		

**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)**  
**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. Once the balance of the experience account accumulates to a sum sufficient to grant retirees a COLA, the Board may grant such COLA with legislative approval.

**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.

**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 regardless of date earned.
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).

**EXHIBIT 5 (Continued)**  
**Principle Provisions**

Benefit:

1. Greater of 75% of member's average compensation or \$300 per month. One-third of the benefit is designated for survivor, two-thirds 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 1 - If a member dies before receiving present value of annuity in monthly payments, balance paid to designated beneficiary.

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.

Initial Benefit Option - Maximum benefit actuarially reduced for partial lump-sum equal to not more than 36 months of maximum monthly pension.

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.

**EXHIBIT 5 (Continued)**  
**Principle Provisions**

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.

**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.

**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.

**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 1981-86 disability experience study of the Retirement System. For mortality after disability, rates were on the Eleventh Actuarial Valuation of the Railroad Retirement Systems for permanent disabilities.

**RETIREMENT ASSUMPTION:**

Retirement without reduction in benefits can occur at any given age after satisfying the service eligibility requirements. Absent from the plan is a traditional "Normal Retirement Age". Since the age and service requirements are varied, the frequency of retirements will depend on the exposure plus intangibles such as health, economy, Social Security and other work patterns. The retirement rates were projected based on the 1981-86 experience study of the Retirement System.

**EXHIBIT 6 (Continued)**  
**Cost Methods & Assumptions**

**TERMINATION ASSUMPTIONS:**

Voluntary termination or withdrawal rates were derived from the 1981-86 termination experience study of the Retirement System. During the first five years of employment, the probability of voluntarily terminating is a multiple of the attained age rate as follows:

	<u>Regular Members</u>	<u>Corrections &amp; Wildlife</u>
1st year	1.3x	1.6x
2nd year	1.0x	1.2x
3rd year	1.0x	1.1x
4th year	1.0x	1.1x
5th year	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 rate of annual salary growth is based on the 1981-86 salary growth experience study of the Retirement System.

**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:

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

**EXHIBIT 6 (Continued)**  
**Cost Methods & Assumptions**

**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 8 1/4%, net expenses.

**ASSET VALUATION:**

Bonds are valued at amortized cost. Fixed assets are valued at cost minus depreciation. For the Plan Year Ending June 30, 1988 equities are valued on a four year weighted average. The computation of the average actuarial value of assets is the sum of the bonds at amortized cost, plus a weighted average of the change in the unrealized losses or (gains) in the market value of equities offset against the market value of equities. 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.

**ADMINISTRATIVE EXPENSES:**

Expenses are included in Aggregate Normal Cost and are assumed to be \$4,500,000 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)

Age	- Death Rates -		Remarriage	Disability	Retirement	Dur	Termination	Salary
	Male	Female	Rates	Rates	Rates		Rates	Scale
20	.00042	.00022	.09350	.00000	.00000	1	.27500	1.11750
21	.00044	.00024	.09152	.00000	.00000	2	.32400	1.10750
22	.00045	.00025	.08954	.00000	.00000	3	.16400	1.09750
23	.00047	.00027	.08757	.00000	.00000	4	.13700	1.08250
24	.00049	.00028	.08569	.00000	.00000	5	.11800	1.07750
25	.00052	.00030	.08402	.00000	.00000	6	.11000	1.07250
26	.00054	.00032	.08225	.00000	.00000	7	.10100	1.07050
27	.00057	.00034	.08028	.00000	.00000	8	.08500	1.06850
28	.00060	.00036	.07802	.00000	.00000	9	.07100	1.06650
29	.00064	.00038	.07556	.00000	.00000	10	.05800	1.06350
30	.00067	.00040	.07281	.00020	.00000	11	.03200	1.06050
31	.00072	.00043	.06976	.00020	.00000	12	.02400	1.05750
32	.00076	.00046	.06652	.00030	.00000	13	.02000	1.05450
33	.00082	.00049	.06308	.00030	.00000	14	.02000	1.05150
34	.00087	.00053	.05945	.00040	.00000	15	.01700	1.04850
35	.00096	.00056	.05582	.00050	.00000	16	.01700	1.04550
36	.00101	.00060	.05230	.00060	.00000	17	.01300	1.04250
37	.00107	.00064	.04890	.00080	.00000	18	.01300	1.04250
38	.00115	.00069	.04570	.00100	.00000	19	.01300	1.04250
39	.00125	.00074	.04271	.00120	.00000	20	.01300	1.04250
40	.00138	.00080	.03993	.00130	.50000	21	.01200	1.04250
41	.00152	.00086	.03769	.00140	.50000	22	.01200	1.04250
42	.00170	.00094	.03480	.00150	.50000	23	.01200	1.04250
43	.00191	.00102	.03256	.00170	.50000	24	.01200	1.04250
44	.00215	.00112	.03037	.00200	.65000	25	.01100	1.04250
45	.00243	.00124	.02822	.00240	.65000	26	.01100	1.04250
46	.00275	.00137	.02632	.00280	.32000	27	.00800	1.04250
47	.00310	.00152	.02455	.00320	.32000	28	.00700	1.04250
48	.00349	.00167	.02303	.00360	.42000	29	.00600	1.04250
49	.00390	.00183	.02154	.00450	.43000	30	.01400	1.04250
50	.00434	.00199	.02019	.00540	.43000	31	.01300	1.04250
51	.00480	.00217	.01889	.00670	.42000	32	.01300	1.04250
52	.00528	.00236	.01808	.00800	.42000	33	.02000	1.04250
53	.00578	.00257	.01733	.00670	.42000	34	.01500	1.04250
54	.00629	.00282	.01671	.00540	.42000	35	.01500	1.04250
55	.00681	.00311	.01622	.00670	.47000	36	.01500	1.04250
56	.00735	.00345	.01596	.00920	.34000	37	.01500	1.04250
57	.00793	.00383	.01584	.01040	.32000	38	.01500	1.04250
58	.00858	.00425	.01589	.01140	.32000	39	.00000	1.04350
59	.00932	.00471	.01622	.01040	.32000	40	.00000	1.04550
60	.01018	.00523	.01682	.00400	.32000	41	.00000	1.04850
61	.01118	.00579	.01764	.00330	.27000	42	.00000	1.05150
62	.01237	.00641	.01906	.00250	.27000	43	.00000	1.05450
63	.01377	.00710	.02061	.00250	.27000	44	.00000	1.05750
64	.01541	.00785	.02239	.00300	.27000	45	.00000	1.05750
65	.01732	.00869	.02446	.00400	.44000	46	.00000	1.05750
66	.01953	.00965	.02684	.00000	.32000	47	.00000	1.05750
67	.02200	.01078	.02952	.00000	.32000	48	.00000	1.05750
68	.02470	.01214	.03209	.00000	.32000	49	.00000	1.05750
69	.02757	.01376	.03504	.00000	.42000	50	.00000	1.05750
70	.03059	.01570	.03851	.00000	.50000	51	.00000	1.05750



**ACTUARIAL TABLES AND RATES  
(JUDGES & LEGISLATORS ASSUMPTIONS)**

Age	- Death Rates - Male      Female	Remarriage Rates	Disability Rates	Retirement Rates	Dur	Termination Rates	Salary 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

## EXHIBIT 7

## LEGISLATIVE AUDITOR'S REPORT

6 Actuarial information for STATE EMPLOYEES' RETIREMENT SYSTEM.

- (a) Most recent actuarial valuation date: June 30, 1997.
- (b) This valuation sets forth information concerning contributions applicable to the plan fiscal year beginning July 1, 1997, and ending June 30, 1998.
- (c) Data used in this valuation
- (i) Number of participants as of the valuation date:
 

Active members. . . . .	69,444
Regular retirees. + DROP. . . . .	24,401
Disability retirees . . . . .	1,119
Survivors receiving benefits. . . . .	4,808
Terminated employees due benefits upon attaining retirement age	1,030
Terminated employees due refunds. . . . .	22,615
  - (ii) Payroll of active members on the valuation date . . . . . 1,607,371,721
  - (iii) Annual benefits in payment on the valuation date. . . . . 324,926,306
- (d) Actuarially required contribution for those systems to which R.S.11:102 applies  
Funding Method Projected Unit Credit.
- |  |               |
|--|---------------|
| Unfunded Accrued Liability as of the end of fiscal 1988 . . . . .              | 1,825,421,035 |
| Amortization Method <u>Increasing Annuity</u> .                                |               |
| Remaining Unamortized Portion of the initial unfunded liability . . . . .      | 2,352,214,793 |
| Current Unfunded Accrued Liability under this method. . . . .                  | 2,035,631,329 |
| Actuarially required employer contribution: (at Mid-year)                      |               |
| (i) Employer Normal Cost. . . . .  | 94,699,978    |
| Amortization Payments for Previous Years (Detail on Exhibit A):                |               |
| (ii) Previous year's unpaid underpayment or (overpayment). . . . .             | 808,653       |
| (iii) Initial Unfunded Liability (Excludes \$4,113,643 appropriation). . . . . | 124,734,244   |
| (iv) Changes due to COLA's. . . . .  | 8,601,429     |
| (v) Changes in plan provisions, assumption and experience. . . . .             | (22,910,066)  |
| (vi) Total employer contribution required (Sum of 6(d)(i) - (v)). . . . .      | 205,934,238   |
| (vii) Estimated projected payroll for the coming fiscal year . . . . .         | 1,633,534,173 |
| (viii) Required Employer Contribution Rate (6(d)(vi)/6(d)(viii)). . . . .      | 12.6%         |
| + Appropriation. . . . .   | 4,113,643     |
- (e) Actuarially required contribution for those systems to which R.S. 11:103 applies  
Funding Method Not Applicable.
- (f) Average yield on investments last fiscal year. . . . . 14.03%
- (g) Actuarial information for accounting purposes (GASB/25 results)
- Pension Benefit Obligation:
- (i) Present retirees and beneficiaries. . . . . 3,340,266,004
  - (ii) Terminated participants due benefits at retirement age. . . . . 38,225,529
  - (iii) Terminated participants due a refund of their contributions 15,661,545
  - (iv) Active Members:
 

(1) Accumulated employee contributions. . . . .	961,645,891
(2) Employer-financed vested portion. . . . .	1,695,846,462
(3) Employer-financed nonvested portion . . . . .	437,715,706
  - (v) Total PBO (sum of 6(g)(i) through 6(g)(iv)) . . . . . 6,489,361,137
- |  |               |
|--|---------------|
| Actuarial value of assets. . . . .                                 | 4,538,438,414 |
| Unfunded (Assets in Excess of) Pension Benefit Obligation. . . . . | 1,950,922,723 |

**Exhibit 7 (Continued)****Legislative Auditor's Report**

## (g) Actuarial assumptions used

Interest rate used . . . . . 8.25%  
 Give the name (or source reference) of the particular table used or attach a copy of the table used for the each of the following. Indicate where appropriate that no assumption is made with regard to a particular aspect of the valuation.

	<u>Males</u>	<u>Females</u>
Mortality rates (healthy)		
Mortality rates (disabled)	<u>See copies of pages 17 - 21 of the 6/30/97</u>	
Termination rates . . . . .	<u>Actuarial Valuation Report Attached</u>	
Retirement rates . . . . .		
Disability rates . . . . .		
Salary scales . . . . .		

## (h) Cost of Living Target Ratio and Funded Ratio of the System: (This section must be completed by state and statewide retirement systems only).

(i) Funded Ratio of the System as of the 1986 fiscal year end . . . . . 53464

(ii) Number of fiscal years elapsed since the 1986 fiscal year end multiplied by one-thirtieth of the difference between one hundred percent and the amount in (6)(h)(i) . . . . . 17063

(iii) Changes in Funded Ratio due to mergers or changes in methods or assumptions after the 1986 fiscal year end;

<u>Date of Change</u>	<u>Change in Funded Ratio</u>
<u>6/30/87</u>	<u>(.03148)</u>
<u>6/30/88</u>	<u>.02822</u>
<u>6/30/89</u>	<u>.02420</u>
<u>6/30/91</u>	<u>(.00781)</u>
<u>6/30/96</u>	<u>.01197</u>

Total Change in Funded Ratio . . . . . 02510

(iv) Number of fiscal years elapsed since the date of each change in (6)(h)(iii) multiplied by one-thirtieth of the amount of such change in funded ratio and of opposite arithmetic sign of such change;

<u>Date of Change</u>	<u>Amortization of Change</u>
<u>6/30/87</u>	<u>.01049</u>
<u>6/30/88</u>	<u>(.00847)</u>
<u>6/30/89</u>	<u>(.00645)</u>
<u>6/30/91</u>	<u>.00156</u>
<u>6/30/96</u>	<u>(.00004)</u>

Total Amortization of Changes . . . . . (.00327)

(v) Target Ratio as of the end of the just completed fiscal year. . . . . 72710  
 (Sum of (6)(h) (i) through (iv))

(vi) Actual Funded Ratio of the system as of the just completed fiscal year 68623

(vii) According to my actuarial calculations this system has \_\_\_ has not X met the target ratio required to grant a cost of living increase to current benefit recipients.

To the best of my knowledge, the information supplied in item 6 and on statements attached to item 6, if any, is complete and accurate. In my opinion the assumptions used are in the aggregate reasonably related to the experience of the system and to reasonable expectations and represent my best estimate of anticipated experience under the system.

Date September 21, 1997

Signature of Actuary Charles G. Hall

**EXHIBIT A**

**AMORTIZATION OF UNFUNDED  
ACTUARIAL ACCRUED LIABILITY  
JUNE 30, 1997**

<u>DATE 6/30</u>	<u>DESCRIPTION</u>	<u>AMTZ. METHOD</u>	<u>AMTZ. PERIOD</u>	<u>INITIAL LIABILITY</u>	<u>YEARS REMAIN</u>	<u>REMAINING BALANCE</u>	<u>MID-YEAR PAYMENT</u>
1) 1988	Initial Liability	I	40	1,825,421,035	32	2,417,987,783	124,734,244*
2) 1989	Change in Liability	I	36	(219,552,151)	32	(246,318,832)	(13,125,650)
3) 1990	Change in Liability	I	36	105,002,368	32	117,803,722	6,277,435
4) 1991	Change in Liability	I	36	47,088,257	32	52,829,018	2,815,112
5) 1992	Legislative COLA	L	12	66,577,000	7	46,197,149	8,601,429
6) 1992	Change in Liability	I	36	1,651,904	32	1,853,296	98,757
7) 1993	Change in Liability	I	36	(67,422,552)	32	(75,642,366)	(4,030,773)
8) 1994	Change in Liability	I	35	(48,680,987)	32	(53,007,637)	(2,824,631)
9) 1995	Change in Liability	I	34	(57,826,272)	32	(61,155,614)	(3,258,814)
10) 1996	Change in Liability	I	33	70,910,540	32	72,893,351	3,884,285
11) 1997	Change in Liability	I	32	(239,190,250)	32	(239,190,250)	(12,745,787)
TOTAL OUTSTANDING BALANCE						2,034,249,620	110,425,607
<b>EMPLOYER'S CREDIT BALANCE</b>							
1993	Contribution Variance L	L	5	2,911,762	1	678,135	705,554
1994	Contribution Variance L	L	5	2,609,956	2	1,169,366	632,423
1995	Contribution Variance L	L	5	(7,118,810)	3	(4,604,371)	(1,724,970)
1996	Contribution Variance L	L	5	1,504,500	4	1,249,323	364,558
1997	Contribution Variance L	L	5	3,429,831	5	3,429,831	831,088
TOTAL OUTSTANDING BALANCE						1,922,284	808,653
TOTAL UNFUNDED ACTUARIAL ACCRUED LIABILITY						\$2,036,171,904	

**\*Note:** LSU and Unfunded Judges equals 3.192635% of the Initial Liability mid-year payment.

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