

**EMPLOYEES RETIREMENT SYSTEM OF TEXAS**

**AUGUST 31, 2003**

**ACTUARIAL VALUATION REPORT**



FOR PLAN YEAR BEGINNING SEPTEMBER 1, 2003

AND

FISCAL YEAR ENDING AUGUST 31, 2003

DECEMBER 10, 2003

# EMPLOYEES RETIREMENT SYSTEM OF TEXAS

## ACTUARIAL VALUATION REPORT

PREPARED AS OF AUGUST 31, 2003

This report describes the results of an actuarial valuation of the Employees Retirement System of Texas. The Employees Retirement System of Texas retained Towers Perrin to perform this actuarial valuation for the purposes of determining (1) the funding status for the plan year September 1, 2003 through August 31, 2004; and (2) financial statement disclosure and reporting information for the fiscal year ending August 31, 2003.

The consulting actuaries are members of the Society of Actuaries and other professional actuarial organizations and meet their "General Qualification Standard for Prescribed Statements of Actuarial Opinions" relating to pension plans.

The calculations were made as of August 31, 2003. In preparing the results presented in this report, we have relied upon information provided to us regarding plan provisions, plan participants, and plan assets as of August 31, 2003. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness but have not audited it. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information.

The actuarial assumptions and the accounting policies and methods employed in this report have been selected by the plan sponsor, with the concurrence of Towers Perrin.

The funding determination portion of this actuarial valuation has been conducted in accordance with principles of practice prescribed by the Actuarial Standards Board and the requirements of the Texas Government Code.

The financial statement disclosure portion of this actuarial valuation has been conducted according to our understanding of Statements No. 25 and 27 of the Government Accounting Standards Board. The Government Accounting Standards Board requires the use of reasonable assumptions. The actuarial assumptions used are identical to the assumptions used for the funding determination portion of the valuation.

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results, since the Actuarial Standards of Practice describe a "best-estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

The information contained in this report was prepared for the internal use of the Employees Retirement System of Texas and its auditors in connection with our actuarial valuation of the pension plan. It is not intended nor necessarily suitable for other purposes.

Towers Perrin



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# EMPLOYEES RETIREMENT SYSTEM OF TEXAS

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## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

### FUNDING DETERMINATION

#### A. KEY VALUATION RESULTS

The key results from the current actuarial valuation, along with comparable figures from the prior valuation, are as follows:

	<u>August 31, 2003</u> <u>Valuation</u>		<u>August 31, 2002</u> <u>Valuation</u>
	<u>After Changes</u>	<u>Before Changes</u>	
Total Contribution Rate	12.000%	12.000%	12.000%
Normal Cost			
— percent of payroll	12.258%	12.771%	12.709%
— dollars	\$588,499,147	\$612,206,176	\$632,869,285
Actuarial Value of Assets (AV)	\$19,478,554,993	\$19,478,554,993	\$18,909,071,718
Actuarial Accrued Liability (AAL)	\$19,959,111,546	\$19,505,543,467	\$18,449,520,698
Funded Ratio (AV/AAL)	97.6%	99.9%	102.5%
Net Asset/(Liability) Balance (AV – AAL)	(\$480,556,553)	(\$26,988,474)	\$459,551,020
Amortization Period in Years	Infinite	Infinite	0.0
Valuation Payroll	\$4,800,611,900	\$4,793,856,202	\$4,979,531,987
Reported Payroll	\$4,738,994,284	\$4,738,994,284	\$4,923,420,460
Contributing Members	142,163	142,163	148,957

## B. DETERMINATION OF FUNDED STATUS AND AMORTIZATION PERIOD

The current valuation has been determined based on the actuarial assumptions summarized in Appendix D and the actuarial cost method described in Appendix E.

The actuarial assumptions are used to predict the likelihood of various benefits becoming payable from the plan, the size of those benefits, and the estimated value today of those future benefits. Actual experience may deviate from these assumptions, resulting in actuarial gains and losses.

The actuarial cost method is a budgeting technique, used to allocate total estimated plan liabilities over past, current and future years. Thus, the choice of the cost method does not affect the overall long-term plan costs, but only the incidence of when those costs are reflected. The cost method is designed to give plan costs as a relatively level percentage of payroll if characteristics of the member group do not change significantly.

An actuarial valuation is the process by which the actuarial assumptions and cost method are applied to actual plan provisions, assets, and member data, to develop a funding level sufficient to provide for future benefit payments, the actual ultimate value of which is not now known.

## C. CHANGES SINCE LAST VALUATION

Since the prior valuation, there were no changes in actuarial cost methods or actuarial procedures. There were changes in plan provisions from HB 2359 and other legislation, but these plan changes had no material impact on the actuarial valuation results. An experience study was completed in 2003 that examined the actuarial experience of the System for the five-year period ending August 31, 2002. As a result of this experience study, several changes in actuarial assumptions have been recommended to the Board for the August 31, 2003 actuarial valuation.

## D. PLAN EXPERIENCE

For fiscal year 2003 the rate of investment return on the market value of assets was approximately 8.9% net of administrative expenses. The actuarial value of assets is a smoothed value that recognizes only 20% of outstanding investment gains and losses. The rate of investment return on the actuarial (smoothed) value of assets was approximately 5.3% for fiscal year 2003, which was less than the 8.0% assumed rate. As of August 31, 2003 the market value of assets was \$2.0 billion less than the actuarial value. Unless the market value earns significantly more than 8% over the next few years (on the average), unrecognized investment losses will gradually be reflected in the actuarial value of assets and the funded ratio will decrease.

The net asset balance of \$459.6 million as of the August 31, 2002 actuarial valuation decreased by approximately \$940.2 million to a net liability balance of \$480.6 million as of the August 31, 2003 valuation. The following table shows the components of this change for 2003 (all amounts in millions of dollars):

Expected change in net asset/(liability) balance:	
Interest on net asset/(liability) balance	\$36.8
Member and State contribution greater/(less) than normal cost	<u>(36.8)</u>
Total	\$0.0
Actuarial gains/(losses) from:	
Service retirements, disability retirement, death-in-service benefits, withdrawal payments and merit, promotion and longevity pay increases	(345.7)
Across-the-board pay increases	383.8
Death after retirement	7.5
Investment income	(502.8)
Other	
— purchases of refunded service or service not previously established	(26.2)
— Proportionate Retirement Program	<u>(3.2)</u>
— Total	<u>(29.4)</u>
Total actuarial gains/(losses)	(\$486.6)
Change in net asset/(liability) balance due to changes in actuarial assumptions	<u>(453.6)</u>
Change in net asset/(liability) balance:	(\$940.2)

The net actuarial loss of \$486.6 million indicates that actual experience since the last valuation was less favorable than expected. The most significant factor was investment return (on the actuarial value of assets) that was less than the assumed rate. There were actuarial experience gains and losses from other sources, such as across-the-board pay increases, more retirements than expected, the Proportionate Retirement Program, purchases of refunded service or service not previously established, and other demographic factors.

E. DISTRIBUTIONS OF NORMAL COST

<u>Type of Benefit</u>	<u>Percent of Payroll</u>		
	<u>August 31, 2003</u>		<u>August 31, 2002</u>
	<u>After Changes</u>	<u>Before Changes</u>	
Service Retirement	8.903%	10.054%	10.034%
Nonoccupational Disability	0.326	0.412	0.409
Occupational Disability	0.021	0.036	0.036
Death	0.236	0.332	0.329
Termination	2.522	1.937	1.901
Expenses	<u>0.250</u>	<u>0.000</u>	<u>0.000</u>
Total	12.258%	12.771%	12.709%

F. ACTUARIAL BALANCE SHEET

	<u>August 31, 2003</u>		<u>August 31, 2002</u>
	<u>After Changes</u>	<u>Before Changes</u>	
<b><u>Actuarial Assets:</u></b>			
Actuarial Value of Tangible Assets	\$19,478,554,993	\$19,478,554,993	\$18,909,071,718
Actuarial Present Value of Future Normal Costs			
Member	\$2,359,025,573	\$2,652,355,913	\$2,727,787,343
Employer	<u>2,362,170,940</u>	<u>2,993,183,647</u>	<u>3,050,120,881</u>
Total	<u>\$4,721,196,513</u>	<u>\$5,645,539,560</u>	<u>\$5,777,908,224</u>
Total	\$24,199,751,506	\$25,124,094,553	\$24,686,979,942
<b><u>Actuarial Liability:</u></b>			
Actuarial Present Value of Benefits			
Active members			
— service retirement	\$12,661,844,659	\$13,101,214,154	\$13,645,722,030
— nonoccupational disability	356,941,540	435,093,961	441,518,607
— occupational disability	12,912,674	23,626,267	24,143,153
— death before retirement	255,381,615	350,074,666	362,016,926
— termination	<u>991,930,447</u>	<u>772,944,849</u>	<u>780,659,371</u>
— total	\$14,279,010,935	\$14,682,953,897	\$15,254,060,087
Inactive members	621,155,984	627,399,683	546,276,690
Supplemental Payments and COLAs	0	0	0
Annuitants	<u>9,780,141,140</u>	<u>9,840,729,447</u>	<u>8,427,092,145</u>
Total	\$24,680,308,059	\$25,151,083,027	\$24,227,428,922
<b><u>Net Asset/(Liability) Balance:</u></b>	(\$480,556,553)	(\$26,988,474)	\$459,551,020

Refer to Appendix B for additional detail regarding assets.



## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

### APPENDIX A

#### SUMMARY OF PLAN PROVISIONS

- A. MEMBERS All employees of state agencies in a full-time or part-time position and elected state officials.
- B. SERVICE RETIREMENT BENEFITS
- Service Retirement Eligibility: Last day of any month following attainment of:
- age 60 and 5 years of service, or
  - the sum of age and service is at least 80, or
  - age 55 and 10 years of service as a commissioned peace officer, a licensed Railroad Commission employee who has served at least five years as an investigator for the oil field theft detection division, or a custodial officer, or
  - age 50 and 20 years of service as a commissioned peace officer or a custodial officer, or
  - age 60 and 8 years of elected class service, or
  - age 50 and 12 years of elected class service.
- Standard Service Retirement Annuity: Monthly annuity payable for life equal to 2.3% of average monthly compensation times years of service. The standard service retirement annuity may not be less than \$150 nor more than 100% of average monthly compensation. Average monthly compensation is the highest 36 month average.
- Optional Service Retirement Benefits: Five optional forms and partial lump sum option assumed actuarially equivalent to standard annuity.
- Automatic Increase: For elected class members only, adjusted automatically as the state salary of a district judge increases.

C. DISABILITY RETIREMENT BENEFITS

Occupational Disability Retirement:

Monthly annuity payable for life equal to 2.3% of average monthly compensation on date of injury/onset of illness times years of service, with a minimum of the greater of 35% of average monthly compensation or \$150 and a maximum of 100% of average monthly compensation. Average monthly compensation is the average of the highest 36 months of salary.

Nonoccupational Disability Retirement:

Monthly annuity payable for life equal to 2.3% of average monthly compensation times years of service, with a maximum of 100%. Average monthly compensation is the average of the highest 36 months of salary. The minimum service credit for elected class members is 8 years.

Eligibility for nonoccupational disability retirement benefits is 8 years of elected class service, or 6 years of elected class service plus 2 years of military service established before 1/1/78 or 10 years of employee class service.

Optional Disability Retirement Benefits:

Five optional forms assumed actuarially equivalent to standard annuity.

Automatic Increase:

For elected class members only, adjusted automatically as the state salary of a district judge increases.

D. DEATH BENEFITS

Before Retirement:

10 or More Years of Service, or Less Than 10 Years of Service But Eligible to Retire and Survived By a Spouse or Minor Children:

Death benefit plan filed by member, beneficiary, or estate payable as a lifetime annuity or 10-year certain annuity. Amount calculated as if the member had retired while eligible for retirement, reduced for the selected optional form of payment (either Option 1 or Option 4).

Less Than 10 Years of Service and Not Eligible to Retire, or Eligible to Retire but Not Survived by a Spouse or Minor Children, or if Selected in Lieu of a Death Benefit Plan:

Refund of member's contributions with interest plus, if member is contributing at the date of death, 5% of the member's accumulated contributions for each full year of service with a maximum of 100% of the member's accumulated contributions.

Occupational Death:

Additional benefit paid to the surviving spouse or dependent children equal to one year's salary based on rate at the time of death.

Member With at Least 8 Years of Elected Class Service:

If not eligible for death benefit plan, spouse receives life annuity equal to one-half of member's accrued benefit at age 60. If no surviving spouse, refund of contributions plus interest and, if a contributing member, 5% of the account times years of service with a maximum of 100%.

After Retirement:

For standard annuity and option based on optional form selected, not less than excess of accumulated contributions at retirement over the monthly annuity benefits paid before the annuity terminates. In addition, a lump sum death benefit of \$5,000 is paid.

E. VESTED BENEFITS AFTER TERMINATION OF EMPLOYMENT

Service Retirement Benefit:

Deferred retirement benefit with 5 or more years of service, forfeitable if contributions withdrawn or death occurs before retirement. (8 years of service for elected class members.)

Nonoccupational Disability Benefit:

10 or more years of service. Nonoccupational disability benefit forfeitable if contributions withdrawn before disability.

Death Benefit:

Vested in death benefit plan if 10 years of service, forfeitable if contributions withdrawn before death.

F. WITHDRAWAL BENEFITS

Refund of member's contributions plus interest at an annual rate of 5%. Withdrawal cancels membership and forfeits all other benefits.

G. CONTRIBUTIONS

Members:

Legislators: 8% of gross salary.

All others: 6% of compensation, which includes base salary and longevity and hazardous duty pay but excludes overtime pay.

State of Texas: The State contribution is 6.00% of payroll. Additional State contributions are made for lump sum death benefits for retirees, for allowable service credits not previously established, and annual membership fees.

H. CHANGES IN PLAN PROVISIONS

There were changes in plan provisions since the prior valuation from HB 2359 and other legislation, but these plan changes had no material impact on the actuarial valuation results.

I. REFERENCES

For a complete description of all of the provisions of the law which describe the Employees Retirement System of Texas, see Texas Government Code, Title 8, Subtitle B. Alternatively, the staff of the Employees Retirement System of Texas can provide more of the details of the provisions.

## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

### APPENDIX B

#### SUMMARY OF ASSETS

#### A. SOURCE OF INFORMATION

Towers Perrin used the plan asset data provided without audit.

#### B. VALUES

	August 31, 2003	August 31, 2002
Market Value of Plan Assets	\$17,467,381,128	\$16,447,568,765
Actuarial Value of Total Assets	\$19,478,554,993	\$18,909,071,718

The calculation of the actuarial value of assets is based on the market-related value of plan assets, with five-year smoothing of unexpected returns. The market-related value is equal to the value of net assets held in trust for pension benefits (fair value of investments plus the carrying value [net of depreciation] of other assets and liabilities) as of the valuation date.

Specifically, the actuarial value of assets is determined as the expected value of plan assets as of the valuation date plus 20% of the difference between the market-related value and the expected value. The expected value equals the actuarial value of plan assets as of the prior valuation date, plus contributions, less benefit payments and administrative expenses, all accumulated at the assumed rate of interest to the current valuation date.

C. ASSET RECONCILIATION

1.	Value of Plan Assets, August 31, 2002	\$16,447,568,765
2.	Contributions	633,815,501
3.	Net Transfers from TRS	24,572,077
4.	Benefits paid	1,081,896,229
5.	Net administrative expenses	11,564,004
6.	Investment return	1,454,885,018
7.	Value of Plan Assets, August 31, 2003: (1)+(2)+(3)-(4)-(5)+(6)	\$17,467,381,128

D. DEVELOPMENT OF ACTUARIAL VALUE OF PLAN ASSETS

1.	Actuarial Value of Plan Assets, August 31, 2002	\$18,909,071,718
2.	Contributions	633,815,501
3.	Net Transfers from TRS	24,572,077
4.	Benefits paid	1,081,896,229
5.	Expected investment return at 8%	1,495,785,392
6.	Expected Value of Plan Assets, August 31, 2003: (1)+(2)+(3)-(4)+(5)	\$19,981,348,459
7.	Market-related Value of Plan Assets, August 31, 2003	17,467,381,128
8.	Difference: (7)-(6)	(2,513,967,331)
9.	Adjustment to expected value: 20% x (8)	(502,793,466)
10.	Actuarial Value of Plan Assets, August 31, 2003: (6)+(9)	\$19,478,554,993

**EMPLOYEES RETIREMENT SYSTEM OF TEXAS**

APPENDIX C

SUMMARY OF MEMBER DATA AND RELATED LIABILITIES

A. MEMBER DATA AS OF AUGUST 31, 2003

The employee data provided to Towers Perrin by the Employees Retirement System of Texas was reviewed for reasonableness but no attempt was made to audit the data. All actuarial computations performed by Towers Perrin are directly dependent on the accuracy and completeness of the information provided.

Member data collected as of August 31, 2003 has been used as the basis for performing this valuation.

Section B contains a summary of currently contributing members used in the current valuation. The summary is based on age on the last birthday and completed years of service as of August 31, 2003, and pay determined from reported contributions for August 2003.

Section C contains a summary of annuitant data used in the current valuation. The annuitant summary is based on the monthly benefit reported as of August 31, 2003.

B. SUMMARY DATA ON CONTRIBUTING AND NONCONTRIBUTING MEMBERS

	<u>August 31, 2003</u>	<u>August 31, 2002</u>
<u>Contributing Members</u>		
Number Contributing:		
Male	65,992	68,620
Female	<u>76,171</u>	<u>80,337</u>
Total	142,163	148,957
Average Annual Rate of Salary:	\$33,335	\$33,053
Average Years of Service Credit:	8.6	8.6
Average Age:	41.9	41.8
Accumulated Member Contributions:	\$2,817,054,001	\$2,861,486,032
<u>Noncontributing Members</u>		
Vested:		
Male	4,753	4,415
Female	<u>7,154</u>	<u>6,713</u>
Total	11,907	11,128
Accumulated Member Contributions:	\$326,031,485	\$293,482,961
Nonvested:		
Male	17,924	16,743
Female	<u>22,040</u>	<u>20,835</u>
Total	39,964	37,578
Accumulated Member Contributions:	\$64,756,757	\$58,092,092

These figures exclude those who retired August 31, because they were included as retirees in the valuation. The average annual rate of salary is based on the member contributions for the month of August.

The following four tables show additional detail for currently contributing members, by classification.



ELECTED CLASS MEMBERS

ANALYSIS OF PARTICIPANT DATA AS OF SEPTEMBER 1, 2003

ACTIVE PARTICIPANT DISTRIBUTION BY AGE AND COMPLETED YEARS OF SERVICE

Age Last Birthday	Completed Years of Service													Total		
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tot Pay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Avg Pay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	Number	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Tot Pay	7,200	0	0	0	0	0	0	0	0	0	0	0	0	0	7,200
	Avg Pay	7,200	0	0	0	0	0	0	0	0	0	0	0	0	0	7,200
25-29	Number	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	Tot Pay	28,800	0	0	0	0	0	0	0	0	0	0	0	0	0	28,800
	Avg Pay	7,200	0	0	0	0	0	0	0	0	0	0	0	0	0	7,200
30-34	Number	5	1	6	1	1	1	0	0	0	0	0	0	0	0	15
	Tot Pay	36,000	101,700	421,200	7,200	101,700	7,200	0	0	0	0	0	0	0	0	675,000
	Avg Pay	7,200	101,700	70,200	7,200	101,700	7,200	0	0	0	0	0	0	0	0	45,000
35-39	Number	8	0	7	0	2	4	1	0	0	0	0	0	0	0	22
	Tot Pay	331,618	0	576,720	0	14,400	123,300	7,200	0	0	0	0	0	0	0	1,053,238
	Avg Pay	41,452	0	82,389	0	7,200	30,825	7,200	0	0	0	0	0	0	0	47,874
40-44	Number	7	2	6	0	4	17	12	0	0	0	0	0	0	0	48
	Tot Pay	239,400	203,400	610,200	0	123,300	839,772	461,502	0	0	0	0	0	0	0	2,477,574
	Avg Pay	34,200	101,700	101,700	0	30,825	49,398	38,459	0	0	0	0	0	0	0	51,616
45-49	Number	6	0	6	0	7	22	23	3	1	0	0	0	0	0	69
	Tot Pay	137,700	0	421,200	0	144,900	1,176,138	1,384,020	211,626	101,700	7,200	7,200	0	0	0	3,584,484
	Avg Pay	22,950	0	70,200	0	20,700	53,461	60,175	70,542	101,700	7,200	7,200	0	0	0	51,949
50-54	Number	7	1	4	1	5	8	14	6	2	1	0	0	0	0	49
	Tot Pay	333,900	7,200	312,300	101,700	310,018	247,626	578,990	306,360	122,544	7,200	7,200	0	0	0	2,327,838
	Avg Pay	47,700	7,200	78,075	101,700	62,004	30,953	41,356	51,060	61,272	7,200	7,200	0	0	0	47,507
55-59	Number	5	0	2	1	1	15	16	11	11	1	0	0	0	0	64
	Tot Pay	225,000	0	203,400	7,200	52,860	1,225,088	834,624	437,886	968,310	101,700	101,700	0	0	0	4,063,268
	Avg Pay	45,000	0	101,700	7,200	52,860	81,673	52,164	39,808	88,028	101,700	101,700	0	0	0	63,489
60-64	Number	5	0	5	0	3	9	6	4	3	2	3	1	0	0	41
	Tot Pay	36,000	0	226,026	0	116,100	518,336	138,726	28,800	117,126	109,926	210,600	7,200	0	0	1,508,840
	Avg Pay	7,200	0	45,205	0	38,700	57,593	23,121	7,200	39,042	54,963	70,200	7,200	0	0	36,801
Over 64	Number	1	0	1	0	3	2	7	3	2	0	0	0	0	0	21
	Tot Pay	101,700	0	101,700	0	116,100	108,900	50,400	116,100	14,400	0	0	0	0	0	623,700
	Avg Pay	101,700	0	101,700	0	38,700	54,450	7,200	38,700	7,200	0	0	0	0	0	29,700
Total	Number	49	4	37	3	26	78	79	27	19	4	4	4	4	4	334
	Tot Pay	1,477,318	312,300	2,872,746	116,100	979,378	4,246,360	3,455,462	1,100,772	1,324,080	218,826	217,800	28,800	16,349,942		
	Avg Pay	30,149	78,075	77,642	38,700	37,668	54,441	43,740	40,769	69,688	54,707	54,450	7,200	48,952		

Average Age = 51.1 Average Service = 9.3

LECO MEMBERS

ANALYSIS OF PARTICIPANT DATA AS OF SEPTEMBER 1, 2003

ACTIVE PARTICIPANT DISTRIBUTION BY AGE AND COMPLETED YEARS OF SERVICE

Age Last Birthday	Completed Years of Service											Total				
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34		Over 34			
15-19	Number	325	70	0	0	0	0	0	0	0	0	0	0	0	0	395
	Tot Pay	6,333,822	1,590,402	0	0	0	0	0	0	0	0	0	0	0	0	7,924,224
	Avg Pay	19,489	22,720	0	0	0	0	0	0	0	0	0	0	0	0	20,061
20-24	Number	1,088	1,091	583	395	197	101	0	0	0	0	0	0	0	0	3,455
	Tot Pay	23,202,038	26,356,036	15,071,840	10,717,180	5,585,546	3,006,500	0	0	0	0	0	0	0	0	83,939,140
	Avg Pay	21,325	24,158	25,852	27,132	28,353	29,767	0	0	0	0	0	0	0	0	24,295
25-29	Number	702	879	600	594	496	1,457	26	0	0	0	0	0	0	0	4,754
	Tot Pay	15,645,958	23,120,628	16,300,208	17,013,992	14,711,250	46,212,020	909,688	0	0	0	0	0	0	0	133,913,744
	Avg Pay	22,288	26,303	27,167	28,643	29,660	31,717	34,988	0	0	0	0	0	0	0	28,169
30-34	Number	564	750	445	522	465	2,766	715	18	0	0	0	0	0	0	6,245
	Tot Pay	12,815,038	19,521,256	12,221,082	15,044,886	14,086,642	91,655,248	24,961,206	636,520	0	0	0	0	0	0	190,941,878
	Avg Pay	22,722	26,028	27,463	28,822	30,294	33,136	34,911	35,362	0	0	0	0	0	0	30,575
35-39	Number	443	477	357	371	324	2,132	744	48	0	0	0	0	0	0	6,132
	Tot Pay	10,083,572	12,478,410	9,773,212	10,511,928	9,571,014	69,608,474	44,928,680	28,471,952	1,868,990	0	0	0	0	0	197,296,232
	Avg Pay	22,762	26,160	27,376	28,334	29,540	32,649	36,350	38,269	38,937	0	0	0	0	0	32,175
40-44	Number	357	421	339	303	288	1,749	1,012	489	16	0	0	0	0	0	6,105
	Tot Pay	8,126,118	10,794,112	9,184,756	8,601,486	8,554,576	56,463,092	36,499,538	45,435,742	21,094,168	799,200	0	0	0	0	205,552,788
	Avg Pay	22,762	25,639	27,094	28,388	29,703	32,283	36,067	40,173	43,137	49,950	0	0	0	0	33,670
45-49	Number	284	305	221	289	249	1,578	811	580	267	5	0	0	0	0	5,302
	Tot Pay	6,234,184	7,880,156	5,958,082	8,084,178	7,146,522	50,701,454	28,850,022	28,710,318	27,366,452	13,856,618	229,262	0	0	0	185,017,248
	Avg Pay	21,951	25,837	26,960	27,973	28,701	32,130	35,573	40,267	47,184	51,897	45,852	0	0	0	34,896
50-54	Number	227	249	168	220	215	1,336	793	148	104	34	0	0	0	0	4,047
	Tot Pay	5,065,560	6,393,192	4,544,118	6,175,340	6,374,720	43,038,216	27,890,444	21,939,760	6,629,990	5,651,588	1,970,342	0	0	0	135,673,270
	Avg Pay	22,315	25,675	27,048	28,070	29,650	32,214	35,171	44,797	44,797	54,342	57,951	0	0	0	33,524
55-59	Number	159	147	137	138	123	980	509	282	25	17	5	5	5	5	2,581
	Tot Pay	3,400,256	3,748,386	3,679,706	3,822,082	3,490,612	31,307,768	18,134,506	10,475,606	2,457,976	1,312,840	1,065,464	276,662	83,171,884		
	Avg Pay	21,385	25,499	26,859	27,696	28,379	31,947	35,628	37,148	41,661	52,514	62,674	55,336	32,225		
60-64	Number	61	70	44	67	57	439	184	117	17	1	1	1	1	1,059	
	Tot Pay	1,341,612	1,818,036	1,165,752	1,880,052	1,592,808	14,121,366	6,634,960	4,550,042	716,804	49,762	48,904	105,480	34,025,578		
	Avg Pay	21,994	25,972	26,494	28,060	27,944	32,167	36,060	38,889	42,165	49,762	48,904	105,480	32,130		
Over 64	Number	17	27	11	19	11	108	37	27	1	1	1	0	0	260	
	Tot Pay	317,942	640,174	318,296	493,146	337,042	3,630,534	1,464,316	1,034,186	24,006	35,826	39,870	0	0	8,335,338	
	Avg Pay	18,702	23,710	28,936	25,955	30,640	33,616	39,576	38,303	24,006	35,826	39,870	0	0	32,059	
Total	Number	4,227	4,486	2,905	2,918	2,425	12,646	5,323	3,585	1,342	414	58	6	6	40,335	
	Tot Pay	92,566,100	114,340,788	78,217,052	82,344,270	71,450,732	409,744,672	190,273,360	141,254,126	60,158,386	21,705,834	3,353,842	382,162	1,265,791,334		
	Avg Pay	21,999	25,488	26,925	28,219	29,464	32,401	35,746	39,401	44,827	52,430	57,825	63,694	31,382		

Average Age = 39.8 Average Service = 7.5

ALL OTHER ERS MEMBERS

ANALYSIS OF PARTICIPANT DATA AS OF SEPTEMBER 1, 2003

ACTIVE PARTICIPANT DISTRIBUTION BY AGE AND COMPLETED YEARS OF SERVICE

Age Last Birthday	Completed Years of Service											Total				
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34		Over 34			
15-19	Number	431	62	9	3	0	0	0	0	0	0	0	0	0	0	505
	Tot Pay	5,324,402	971,790	146,798	34,460	0	0	0	0	0	0	0	0	0	0	6,477,450
	Avg Pay	12,354	15,674	16,311	11,487	0	0	0	0	0	0	0	0	0	0	12,827
20-24	Number	1,802	1,235	1,014	485	213	112	0	0	0	0	0	0	0	0	4,861
	Tot Pay	33,620,696	26,515,832	22,226,116	10,752,342	4,767,594	2,628,710	0	0	0	0	0	0	0	0	100,511,290
	Avg Pay	18,657	21,470	21,919	22,170	22,383	23,471	0	0	0	0	0	0	0	0	20,677
25-29	Number	1,558	1,577	1,764	1,332	989	1,539	51	0	0	0	0	0	0	0	8,810
	Tot Pay	36,432,152	42,347,764	50,080,314	38,743,736	29,358,166	44,823,578	1,605,984	0	0	0	0	0	0	0	243,391,694
	Avg Pay	23,384	26,853	28,390	29,087	29,685	29,125	31,490	0	0	0	0	0	0	0	27,627
30-34	Number	1,221	1,409	1,587	1,378	1,143	3,977	1,401	77	0	0	0	0	0	0	12,193
	Tot Pay	29,724,192	39,243,190	46,495,538	41,944,988	36,036,888	133,648,546	48,389,876	2,762,340	0	0	0	0	0	0	378,245,558
	Avg Pay	24,344	27,852	29,298	30,439	31,528	33,605	34,540	35,875	0	0	0	0	0	0	31,022
35-39	Number	960	1,031	1,229	1,096	932	3,841	3,257	1,436	130	0	0	0	0	0	13,912
	Tot Pay	24,512,624	29,464,362	35,469,202	32,919,042	28,857,408	130,919,998	124,221,558	56,377,438	4,805,728	0	0	0	0	0	467,547,360
	Avg Pay	25,534	28,578	28,860	30,036	30,963	34,085	38,140	39,260	36,967	0	0	0	0	0	33,607
40-44	Number	873	980	1,065	973	844	3,531	3,451	2,800	1,489	157	1	0	0	0	16,164
	Tot Pay	22,249,214	27,072,792	31,747,542	29,967,292	27,375,206	120,213,418	134,162,184	122,172,800	61,629,724	6,498,384	34,872	0	0	0	583,123,428
	Avg Pay	25,486	27,625	29,810	30,799	32,435	34,045	38,876	43,633	41,390	41,391	34,872	0	0	0	36,075
45-49	Number	792	918	1,089	910	810	3,339	3,264	2,581	2,260	1,415	73	0	0	0	17,451
	Tot Pay	20,952,164	26,378,088	32,035,074	28,635,462	25,768,530	115,750,078	127,751,958	106,192,412	100,311,900	61,084,936	3,074,576	0	0	0	647,935,178
	Avg Pay	26,455	28,734	29,417	31,468	31,813	34,666	39,140	41,144	44,386	43,170	42,117	0	0	0	37,129
50-54	Number	560	719	838	681	623	2,849	2,972	2,284	1,723	1,352	283	12	12	14,896	
	Tot Pay	15,106,624	21,433,710	26,112,020	22,858,310	20,197,966	100,715,850	115,778,088	94,254,818	72,975,164	62,833,572	13,937,038	629,392	566,832,552		
	Avg Pay	26,976	29,810	31,160	33,566	32,420	35,351	38,956	41,267	42,354	46,475	49,247	52,449	38,053		
55-59	Number	345	408	509	461	426	1,969	2,096	1,499	756	347	222	65	65	9,103	
	Tot Pay	9,433,300	11,937,414	15,856,066	14,735,736	13,827,404	69,834,730	80,206,294	58,011,114	30,571,112	15,859,966	11,296,676	3,243,926	334,813,738		
	Avg Pay	27,343	29,258	31,151	31,965	32,459	35,467	38,266	38,700	40,438	45,706	50,886	49,907	36,781		
60-64	Number	125	134	188	179	202	751	460	325	152	97	56	31	31	2,700	
	Tot Pay	3,520,190	4,122,380	5,910,230	5,591,460	6,486,770	25,353,032	17,995,262	13,583,462	6,064,340	4,522,840	2,650,164	1,483,398	97,283,528		
	Avg Pay	28,162	30,764	31,437	31,237	32,113	33,759	39,120	41,795	39,897	46,627	47,324	47,852	36,031		
Over 64	Number	44	47	83	58	57	287	166	97	32	16	6	6	6	899	
	Tot Pay	960,406	1,341,934	2,308,942	1,834,952	1,691,712	9,422,148	6,143,210	3,981,432	1,312,448	909,718	349,718	434,622	30,691,242		
	Avg Pay	21,827	28,552	27,819	31,637	29,679	32,830	37,007	41,046	41,014	56,857	58,286	72,437	34,139		
Total	Number	8,711	8,520	9,375	7,556	6,239	22,195	17,118	11,099	6,542	3,384	641	114	101,494		
	Tot Pay	201,835,964	230,829,256	268,387,842	228,017,780	194,367,644	753,310,088	656,254,414	457,335,816	277,670,416	151,709,416	31,343,044	5,791,338	3,456,853,018		
	Avg Pay	23,170	27,093	28,628	30,177	31,154	33,941	38,337	41,205	42,444	44,831	48,897	50,801	34,060		

Average Age = 42.7 Average Service = 9.1

ALL CONTRIBUTING MEMBERS

ANALYSIS OF PARTICIPANT DATA AS OF SEPTEMBER 1, 2003

ACTIVE PARTICIPANT DISTRIBUTION BY AGE AND COMPLETED YEARS OF SERVICE

Age Last Birthday	Completed Years of Service													Total		
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19	Number	756	132	9	3	0	0	0	0	0	0	0	0	0	0	900
	Tot Pay	11,658,224	2,562,192	146,798	34,460	0	0	0	0	0	0	0	0	0	0	14,401,674
	Avg Pay	15,421	19,411	16,311	11,487	0	0	0	0	0	0	0	0	0	0	16,002
20-24	Number	2,891	2,326	1,597	880	410	213	0	0	0	0	0	0	0	0	8,317
	Tot Pay	56,829,934	52,871,868	37,297,956	21,469,522	10,353,140	5,635,210	0	0	0	0	0	0	0	0	184,457,630
	Avg Pay	19,658	22,731	23,355	24,397	25,252	26,456	0	0	0	0	0	0	0	0	22,178
25-29	Number	2,264	2,456	2,364	1,926	1,485	2,996	77	0	0	0	0	0	0	0	13,568
	Tot Pay	52,106,910	65,468,392	66,380,522	55,757,728	44,069,416	91,035,598	2,515,672	0	0	0	0	0	0	0	377,334,238
	Avg Pay	23,015	26,657	28,080	28,950	29,676	30,386	32,671	0	0	0	0	0	0	0	27,811
30-34	Number	1,790	2,160	2,038	1,901	1,609	6,744	2,116	95	0	0	0	0	0	0	18,453
	Tot Pay	42,575,230	58,866,146	59,137,820	56,997,074	50,225,230	225,310,994	73,351,082	3,398,860	0	0	0	0	0	0	569,862,436
	Avg Pay	23,785	27,253	29,018	29,983	31,215	33,409	34,565	35,777	0	0	0	0	0	0	30,882
35-39	Number	1,411	1,508	1,593	1,467	1,258	5,977	4,494	2,180	178	0	0	0	0	0	20,066
	Tot Pay	34,927,814	41,942,772	45,819,134	43,430,970	38,442,822	200,651,772	169,157,438	84,849,390	6,674,718	0	0	0	0	0	665,896,830
	Avg Pay	24,754	27,814	28,763	29,605	30,559	33,571	37,641	38,922	37,498	0	0	0	0	0	33,185
40-44	Number	1,237	1,403	1,410	1,276	1,136	5,297	4,475	3,931	1,978	1	0	0	0	0	22,317
	Tot Pay	30,614,732	38,070,304	41,542,498	38,568,778	36,053,082	177,516,282	171,123,224	167,608,542	82,723,892	34,872	0	0	0	0	791,153,790
	Avg Pay	24,749	27,135	29,463	30,226	31,737	33,513	38,240	42,638	41,922	34,872	0	0	0	0	35,451
45-49	Number	1,082	1,223	1,316	1,199	1,066	4,939	4,098	3,297	2,841	78	0	0	0	0	22,822
	Tot Pay	27,324,048	34,258,244	38,414,356	36,719,840	33,059,952	167,627,670	157,986,000	135,114,356	127,780,052	3,303,838	0	0	0	0	836,536,910
	Avg Pay	25,253	28,012	29,190	30,625	31,013	33,940	38,552	40,981	44,977	42,357	0	0	0	0	36,655
50-54	Number	794	969	1,010	902	843	4,193	3,779	2,843	1,873	318	12	12	12	18,992	
	Tot Pay	20,506,084	27,834,102	30,968,438	29,135,350	26,882,704	144,001,692	144,247,522	116,500,938	79,727,698	15,914,580	629,392	704,833,660	704,833,660	37,112	
	Avg Pay	25,826	28,725	30,662	32,301	31,889	34,343	38,171	40,978	42,567	50,046	52,449	52,449	52,449	37,112	
55-59	Number	509	555	648	600	550	2,964	2,621	1,792	826	239	71	11,748	11,748	35,925	
	Tot Pay	13,058,556	15,685,800	19,739,172	18,565,018	17,370,876	102,367,586	99,175,424	68,924,606	33,997,398	17,274,506	3,527,808	422,048,890	422,048,890	35,925	
	Avg Pay	25,655	28,263	30,462	30,942	31,583	34,537	37,839	38,462	41,159	46,312	49,687	49,687	49,687	35,925	
60-64	Number	191	204	237	246	262	1,199	650	446	172	60	33	3,800	3,800	34,952	
	Tot Pay	4,897,802	5,940,416	7,302,008	7,471,512	8,195,678	39,992,734	24,768,948	18,162,304	6,898,270	2,909,668	1,596,078	132,817,946	132,817,946	34,952	
	Avg Pay	25,643	29,120	30,810	30,372	31,281	33,355	38,106	40,723	40,106	48,825	48,366	48,366	48,366	34,952	
Over 64	Number	62	74	95	77	71	397	210	127	35	7	8	1,180	1,180	33,602	
	Tot Pay	1,380,048	1,982,108	2,728,938	2,328,098	2,144,854	13,161,582	7,657,926	5,131,718	1,350,854	389,588	449,022	39,650,280	39,650,280	33,602	
	Avg Pay	22,259	26,785	28,726	30,235	30,209	33,153	36,466	40,407	38,596	55,620	56,128	56,128	56,128	33,602	
Total	Number	12,987	13,010	12,317	10,477	8,690	34,919	22,520	14,711	7,903	703	124	142,163	142,163	33,335	
	Tot Pay	285,879,382	345,482,344	349,477,640	310,478,150	266,797,754	1,167,301,120	849,983,236	599,690,714	339,152,882	173,634,076	6,202,300	3,738,994,284	3,738,994,284	33,335	
	Avg Pay	22,783	26,555	28,374	29,634	30,702	33,429	37,743	40,765	42,914	45,669	50,019	50,019	50,019	33,335	

Average Age = 41.9      Average Service = 8.6

C. ANNUITANT BENEFITS AS OF AUGUST 31, 2003

<u>Type of Annuity</u>	<u>Number of Accounts</u>	<u>Monthly Payment</u>
<b>Service Retirements and Beneficiaries:</b>		
Male Annuitants:		
Straight Life	11,614	\$20,769,895
Joint & Full	6,046	9,879,803
Joint & One-Half	5,115	11,047,506
Life With 60 Months Certain	264	470,781
Life With 120 Months Certain	777	1,276,024
Joint & Three-Fourths	3,329	7,357,920
Annuity Certain	<u>288</u>	<u>283,508</u>
Male Total	27,433	\$51,085,437
Female Annuitants:		
Straight Life	23,014	\$29,841,147
Joint & Full	1,113	1,363,518
Joint & One-Half	1,526	2,434,374
Life With 60 Months Certain	326	478,919
Life With 120 Months Certain	556	664,987
Joint & Three-Fourths	441	652,822
Annuity Certain	<u>241</u>	<u>150,371</u>
Female Total	<u>27,217</u>	<u>\$35,586,138</u>
Total Service Retirements	54,650	\$86,671,575
TRS Reimbursing ERS	3,502	\$2,453,603
ERS Reimbursing TRS	<u>1,394</u>	<u>339,084</u>
Net ERS Service Retirements	56,044	\$84,557,056

Type of Annuity	Number of Accounts	Monthly Payment
<b>Disability Retirements:</b>		
Male Annuitants:		
Straight Life	892	\$876,351
Joint & Full	174	150,320
Joint & One-Half	68	70,910
Life With 60 Months Certain	13	11,224
Life With 120 Months Certain	33	31,547
Joint & Three-Fourths	66	55,501
Annuity Certain	<u>15</u>	<u>14,125</u>
Male Total	1,261	\$1,209,978
Female Annuitants:		
Straight Life	1,392	1,098,332
Joint & Full	75	61,376
Joint & One-Half	61	55,068
Life With 60 Months Certain	11	8,115
Life With 120 Months Certain	46	38,947
Joint & Three-Fourths	15	15,772
Annuity Certain	<u>18</u>	<u>12,830</u>
Female Total	1,618	\$1,290,440
Total Disability Retirements	2,879	\$2,500,418
TRS Reimbursing ERS	114	41,029
ERS Reimbursing TRS	<u>52</u>	<u>9,209</u>
Net ERS Disability Retirements	2,931	\$2,468,598
<b>TOTAL SERVICE AND DISABILITY RETIREMENTS</b>	57,529	\$89,171,993
<b>TRS Reimbursing ERS</b>	3,616	2,494,632
<b>ERS Reimbursing TRS</b>	<u>1,446</u>	<u>348,293</u>
<b>NET ERS SERVICE AND DISABILITY RETIREMENTS</b>	58,975	\$87,025,654

D. AVERAGE AGE, SERVICE AND BENEFIT OF ANNUITANTS AS OF AUGUST 31, 2003

	Number of Annuitants	Average			Service at Retirement
		Monthly Benefit	Age at Retirement	Age at 08/31/2003	
<b>All Annuitants in Pay Status</b>					
Elected Class	677	\$2,515.07	57.12	70.42	15.77
Law Enforcement & Custodial Officers:					
— No LECOSRF Benefit	1,131	\$912.76	58.89	69.38	14.49
— With LECOSRF Benefit	3,970	\$2,109.16	54.42	62.53	27.70
Regular State Employees	<u>51,528</u>	\$1,514.97	59.35	68.25	22.78
<b>Total ERS</b>	<b>57,306</b>	<b>\$1,556.07</b>	<b>58.97</b>	<b>67.90</b>	<b>22.87</b>
<b>Service Retirees (Excludes Disability Retirees &amp; Beneficiaries)</b>					
Elected Class	515	\$2,628.03	56.69	68.20	15.21
Law Enforcement & Custodial Officers:					
— No LECOSRF Benefit	857	\$938.05	60.33	70.11	14.75
— With LECOSRF Benefit	3,415	\$2,238.69	54.33	61.45	27.93
Regular State Employees	<u>43,476</u>	\$1,592.60	59.74	67.74	23.03
<b>Total ERS</b>	<b>48,263</b>	<b>\$1,637.74</b>	<b>59.34</b>	<b>67.34</b>	<b>23.14</b>
<b>Disability Retirees</b>					
Elected Class	2	\$1,636.92	57.35	70.89	9.08
Law Enforcement & Custodial Officers:					
— No LECOSRF Benefit	71	\$877.71	42.58	56.76	7.66
— With LECOSRF Benefit	81	\$922.74	45.60	56.87	8.57
Regular State Employees	<u>2,725</u>	\$866.09	50.40	60.28	15.30
<b>Total ERS</b>	<b>2,879</b>	<b>\$868.50</b>	<b>50.08</b>	<b>60.11</b>	<b>14.92</b>
<b>Beneficiaries</b>					
Elected Class	160	\$2,162.47	58.52	77.55	17.65
Law Enforcement & Custodial Officers:					
— No LECOSRF Benefit	203	\$818.24	58.51	70.73	15.76
— With LECOSRF Benefit	474	\$1,378.71	56.54	71.28	29.30
Regular State Employees	<u>5,327</u>	\$1,213.39	60.66	76.51	24.58
<b>Total ERS</b>	<b>6,164</b>	<b>\$1,237.73</b>	<b>60.22</b>	<b>75.94</b>	<b>24.48</b>
<b>All Annuitants Not Yet in Pay Status</b>					
Law Enforcement & Custodial Officers:					
— With LECOSRF Benefit	223	\$1,446.16	44.24	45.77	21.89

E. RETIREMENT MEMBERS BY TYPE OF BENEFIT AS OF AUGUST 31, 2003

Amount of Monthly Benefit	Number of Annuitants	Type of Retirement			Option Selected				
		Service	Disability	Life	Option 1	Option 2	Option 3	Option 4	Option 5
0 – 300	3,394	3,282	112	2,027	688	235	48	275	121
300 – 600	8,977	8,074	903	6,612	1,246	465	78	283	293
600 – 900	9,081	8,138	943	6,724	1,121	581	89	233	333
900 – 1,200	7,274	6,805	469	5,225	872	638	82	158	299
1,200 – 1,500	6,070	5,812	258	4,030	801	701	68	126	344
1,500 – 2,000	8,104	7,938	166	4,935	1,050	1,191	111	174	643
2,000 – 2,500	6,376	6,321	55	3,600	781	1,189	64	148	594
2,500 – 3,000	4,590	4,575	15	2,288	602	969	53	113	565
3,000 – 4,000	3,754	3,748	6	1,917	487	744	37	67	502
4,000 – 10,999	<u>1,355</u>	<u>1,351</u>	<u>4</u>	<u>679</u>	<u>193</u>	<u>229</u>	<u>10</u>	<u>26</u>	<u>218</u>
Total*	58,975	56,044	2,931	38,037	7,841	6,942	640	1,603	3,912

\* Includes 1,446 TRS annuitants reimbursed by ERS and 223 LECOSRF annuitants not yet eligible to begin an annuity from ERS.

F. RETIREEES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ANNUITY PAYROLLS

Employees Retirement Fund	Number of Annuitants	Benefit Amount		Average Annual Benefit
		Monthly	Annually	
August 31, 2002	51,738	\$76,196,075.45	\$914,352,905	\$17,673
Added to Rolls	8,172	12,220,509.42	146,646,113	
Removed from Rolls	(1,252)	(1,568,206.19)	(18,818,474)	
Other Beneficiaries	<u>317</u>	<u>177,275.17</u>	<u>2,127,302</u>	
August 31, 2003	58,975*	\$87,025,653.85	\$1,044,307,846	\$17,708

\* Includes 1,446 TRS annuitants reimbursed by ERS and includes 223 LECOSRF annuitants not yet eligible to begin an annuity from ERS



## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

### APPENDIX D

#### SUMMARY OF RECOMMENDED ACTUARIAL ASSUMPTIONS

##### A. ACTUARIAL ASSUMPTIONS

Investment Rate of Return:	8.0% per year, compounded annually.
Administrative Expenses:	0.25% of pay per year.
Salary Increases:	
Employee Class Members:	Salary increase rates include 4.0% annual increase for inflation plus increases for merit, promotion and longevity. See sample rates.
Elected Class Members:	Legislators receive no increases, but district judge salary used for benefits is expected to increase 4.0% annually. Others expected to receive 4.0% increase, with district judge salary used if greater.
Payroll Growth:	4.0% per year, compounded annually.
Cost-of-Living Increases for Elected Class Members:	4.0% per year, compounded annually.
Mortality:	
Active Lives:	Tables based on ERS experience; see sample rates.
Service Retirees and Beneficiaries:	1994 Group Annuity Mortality, male and female tables.
Disability Retirees:	Table based on ERS experience; see sample rates.

Disability Retirement:			
Rates of Disability Retirement:		Graded tables based on ERS experience.	
Option Selection Percentage:		<u>Standard</u>	<u>Option 1</u>
Male Members		50%	40%
Female Members		75%	15%
			<u>Option 4</u>
			10%
			10%
Beneficiary Characteristics:			
Male Members		Member is three years older than female beneficiary.	
Female Members		Member is same age as male beneficiary.	
Termination of Employment:		Graded tables based on ERS experience; see sample rates.	
Withdrawal of Contributions:		Graded tables based on ERS experience; see sample rates.	
Service Retirement:			
Rates of Service Retirement:		Graded tables based on ERS experience; see sample rates.	
Form of Payment:		Standard Annuity (Life Annuity)	
Credited Service:		Assumed one year earned in each future year employed. Service credit at retirement is assumed to be increased by 2.6% for Regular members and 4.6% for LECO members for accumulated leave.	
Transfers from ERS to TRS:			
Contributing ERS Members:		3% of regular state employee and LECO members who cease contributing to ERS will transfer ERS service credit to TRS.	
Noncontributing ERS Members:		Records of ERS and TRS are matched to determine former ERS members who are currently actively contributing under TRS.	

TRS Retirement Age:

Former ERS members who are or become contributing TRS members are assumed to continue to earn service credit under TRS until first eligible for unreduced service retirement benefits, retire at the time and transfer ERS service credit to TRS.

TRS Salary Increases:

5.5% per year.

Death Benefit Plan:

Option Selection Percentage:

Male Members

Option 1

Option 4

75%

25%

Female Members

60%

40%

Beneficiary Characteristics:

Male Members

Member is three years older than female beneficiary.

Female Members

Member is same age as male beneficiary.

Missing Data:

Entry age is assumed to be age 30 for the employee class and age 45 for the elected class and sex is assumed to be male if data is missing.

B. SAMPLE RATES

Annual Salary Increases for Merit, Promotion and Longevity – Regular State Members:

Age	Male and Female – Based on Years of Service						
	0	1	2-4	5-9	10-14	15-19	20+
20	6.8%	5.2%	4.7%	4.6%			
25	6.7	5.2	4.7	4.3	3.9%		
30	6.0	5.2	4.4	3.8	3.6	3.2%	
35	5.5	4.7	4.2	3.5	3.3	3.0	3.0%
40	5.5	4.5	4.0	3.4	3.0	2.7	2.6
45	5.3	4.5	3.9	3.3	2.9	2.6	2.4
50	4.9	4.5	3.8	3.2	2.7	2.3	2.2
55	4.5	4.3	3.5	2.9	2.4	2.0	1.8
60	2.9	2.9	2.6	2.4	2.3	1.9	1.8

Annual Salary Increases for Merit, Promotion and Longevity – LECO Members:

Age	Male and Female – Based on Years of Service		
	0	1	2+
20	10.0%	4.5%	2.0%
25	10.0	4.5	2.0
30	10.0	4.5	2.0
35	10.0	4.5	2.0
40	10.0	4.5	2.0
45	10.0	4.5	2.0
50	10.0	4.5	2.0
55	10.0	4.5	2.0
60	10.0	4.5	2.0

Annual Rates of Termination – Regular State Members:

Age	Male and Female – Based on Years of Service										
	0	1	2	3	4	5-6	7-9	10-14	15-19	20-24	25+
20	49%	31%	27%	25%	19%	19%	11%	6%	3%	2%	0%
25	32	26	23	19	17	17	10	6	3	2	0
30	25	22	18	17	14	14	9	6	3	2	0
35	24	20	16	14	12	12	8	5	3	2	0
40	22	18	15	13	10	10	8	5	3	2	0
45	22	16	12	11	9	7	6	5	3	2	0
50	22	14	12	10	9	7	6	4	3	2	0
55	20	13	10	8	7	5	5	4	3	2	0
60	23	18	16	13	12	10	0	0	0	0	0

## Annual Rates of Termination – LECO Members:

Males and Females – Based on Years of Service													
Age	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10–14</u>	<u>15–19</u>	<u>20+</u>
20	29%	25%	18%	18%	17%	17%	16%	11%	11%	11%	0%	0%	0%
25	25	20	16	16	15	14	14	10	10	10	10	0	0
30	24	19	15	15	11	10	10	10	9	9	9	0	0
35	24	15	13	13	10	10	9	8	8	7	6	2	0
40	23	14	10	10	10	10	9	7	7	7	6	2	0
45	21	13	9	9	9	9	8	7	7	7	5	2	0
50	19	10	8	8	6	5	5	5	5	5	5	2	0
55	18	10	8	8	6	5	5	4	4	4	4	2	0
60	25	22	10	10	6	5	5	0	0	0	0	0	0

Annual Rates of Termination – Elected Class Members: 5% for all ages

Annual Rates of Withdrawal of Employee Contributions by Vested Terminated Members – Based on Years of Service:

Age	Regular State Members				LECO Members			
	<u>5–10</u>	<u>10–15</u>	<u>15–20</u>	<u>20+</u>	<u>5–10</u>	<u>10–15</u>	<u>15–20</u>	<u>20+</u>
20–24	100%	100%	0%	0%	100%	0%	0%	0%
25–34	85	80	60	0	90	85	80	0
35–44	75	65	60	50	85	75	65	0
45–54	65	55	50	35	75	65	55	0
55+	55	45	40	25	65	0	0	0

Active Mortality Rates – Regular State Members:

Age	Occupational		Nonoccupational	
	Females	Males	Females	Males
20	0.001%	0.002%	0.026%	0.036%
25	0.001	0.002	0.026	0.048
30	0.001	0.002	0.032	0.059
35	0.001	0.002	0.043	0.063
40	0.001	0.002	0.064	0.079
45	0.001	0.002	0.088	0.118
50	0.001	0.002	0.129	0.195
55	0.001	0.002	0.207	0.336
60	0.001	0.002	0.400	0.608
65	0.001	0.002	0.777	1.109

## Active Mortality Rates – LECO Members:

Age	Occupational		Nonoccupational	
	Females	Males	Females	Males
20	0.001%	0.003%	0.034%	0.044%
25	0.001	0.003	0.035	0.058
30	0.001	0.003	0.042	0.071
35	0.001	0.003	0.057	0.076
40	0.001	0.003	0.085	0.097
45	0.001	0.003	0.117	0.144
50	0.001	0.003	0.171	0.237
55	0.001	0.003	0.275	0.408
60	0.001	0.003	0.533	0.739
65	0.001	0.003	1.036	1.349

## Disability Retirement Rates – Regular State Members:

Age	Occupational	Nonoccupational	
	Female & Males	Females	Males
20	0.003%	0.000%	0.000%
25	0.003	0.000	0.000
30	0.003	0.028	0.057
35	0.003	0.087	0.135
40	0.004	0.186	0.144
45	0.007	0.302	0.213
50	0.008	0.430	0.308
55	0.011	0.724	0.514
60	0.015	0.000	0.000
65	0.018	0.000	0.000

## Disability Retirement Rates – LECO Members:

Age	Occupational (Females & Males)		Nonoccupational
	Total	Non-Total	Females & Males
20	0.0002%	0.0008%	0.000%
25	0.0002	0.0008	0.000
30	0.0006	0.0024	0.016
35	0.0012	0.0048	0.054
40	0.0018	0.0072	0.101
45	0.0028	0.0112	0.169
50	0.0040	0.0160	0.284
55	0.0048	0.0192	0.424
60	0.0054	0.0216	0.000
65	0.0052	0.0208	0.000

## Service Retirement Rates – Regular State Employees:

## First Year Eligible to Retire

<u>Age</u>	<u>Females</u>	<u>Males</u>
36-44	0%	0%
45-49	45	20
50	50	40
51-54	50	40
55	50	50
56-59	50	50
60	25	20
61-64	15	20
65	15	20
66-69	15	20
70+	100	100

## After First Year Eligible to Retire

<u>Age</u>	<u>Females</u>						<u>Males</u>				
	<u>0-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>0-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>
36-44	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
45-49	0	0	0	0	0	25	0	0	0	0	0
50	0	0	0	0	0	25	0	0	0	0	10
51-54	0	0	0	0	30	25	0	0	0	20	10
55	0	0	0	0	30	30	0	0	0	15	10
56-59	0	0	0	30	30	30	0	0	25	15	10
60	10	20	30	30	30	30	15	20	25	30	20
61-64	10	20	25	30	30	30	15	20	25	30	20
65	15	20	30	30	50	50	15	25	30	40	40
66-69	15	20	20	20	25	25	15	20	20	15	15
70+	100	100	100	100	100	100	100	100	100	100	100

## Service Retirement Rates – LECO Members:

## First Year Eligible to Retire

<u>Age</u>	<u>Females</u>	<u>Males</u>
36-44	1%	1%
45-49	3	3
50	39	25
51-54	16	12
55	16	12
56-59	16	12
60	31	21
61-64	31	11
65	46	37
66-69	23	18
70+	100	100

## After First Year Eligible to Retire

<u>Age</u>	<u>Females</u>		
	<u>0-9</u>	<u>10-19</u>	<u>20+</u>
36-44	0%	0%	1%
45-49	0	0	2
50	0	0	30
51-54	0	0	12
55	0	12	24
56-59	0	12	12
60	24	24	24
61-64	24	24	24
65	35	35	35
66-69	18	18	18
70+	100	100	100

<u>Age</u>	<u>Males</u>									
	<u>0-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-23</u>	<u>24</u>	<u>25-26</u>	<u>27</u>	<u>28</u>	<u>29-34</u>	<u>35+</u>
36-44	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%
45-49	0	0	0	3	3	3	3	3	3	3
50	0	0	26	29	30	45	47	50	50	60
51-54	0	0	13	14	15	11	12	12	14	14
55	0	12	13	30	30	22	24	25	30	30
56-59	0	12	13	14	13	11	12	12	14	14
60	21	24	26	43	45	45	47	50	50	60
61-64	11	24	26	29	30	28	29	31	36	36
65	37	41	45	50	50	40	40	43	50	50
66-69	18	20	22	24	25	19	20	21	24	24
70+	100	100	100	100	100	100	100	100	100	100

## Service Retirement Rates – Elected Class Members:

<u>Age</u>	<u>Male &amp; Female</u>
50-59	10%
60-64	15%
65-74	20%
75+	100%



## Mortality Rates – Retirees and Beneficiaries:

Age	Service Retirees & Beneficiaries (1994 GAM)		Disability Retirees*	
	Females	Males	Females	Males
15	0.0216%	0.0345%	2.50%	3.38%
20	0.0284	0.0507	2.50	3.38
25	0.0291	0.0661	2.50	3.38
30	0.0351	0.0801	2.25	2.53
35	0.0478	0.0851	2.03	1.95
40	0.0709	0.1072	1.99	1.97
45	0.0973	0.1578	2.13	2.25
50	0.1428	0.2579	2.44	2.68
55	0.2294	0.4425	2.80	3.37
60	0.4439	0.7976	3.14	4.42
65	0.8636	1.4535	3.52	5.09
70	1.3730	2.3730	3.90	5.91
75	2.2686	3.7211	4.67	7.16
80	3.9396	6.2027	7.09	10.15
85	6.7738	9.7240	10.72	15.98
90	11.6265	15.2931	16.82	25.25
95	18.6213	23.3606	25.25	37.89
100	27.6427	31.7238	37.89	56.84
105	38.3597	40.7224	56.84	85.27
110	48.2325	48.6745	100.00	100.00
115	50.0000	50.0000	100.00	100.00
120	100.0000	100.0000	100.00	100.00

\* For females, assumption is 95% of PBGC disabled mortality grading to 100% from age 85 to 90. For males, assumption is 70% of PBGC disabled mortality grading to 100% from age 60 to 90.

C. CHANGES IN ACTUARIAL ASSUMPTIONS

The expected rate of termination, rate of salary increases, rate of active member mortality, rates of disability, rate of retirement and rate of disabled mortality have been updated to reflect recent plan experience. Option selection, beneficiary characteristics, administrative expense and accumulated leave assumptions were also updated.

**EMPLOYEES RETIREMENT SYSTEM OF TEXAS**APPENDIX EDESCRIPTION OF ACTUARIAL METHODS AND PROCEDURES**A. ACTUARIAL COST METHOD - NORMAL COST AND ACTUARIAL ACCRUED LIABILITY**

The method used to determine the normal cost and actuarial accrued liability is the entry age actuarial cost method, described below:

Entry age is determined as the member's age on the valuation date minus years of service credit as of the valuation date.

On the actuarial valuation date, the actuarial present values of projected benefits and valuation earnings for each active employee included in the actuarial valuation whose attained age is less than the assumed latest retirement age are determined at the individual's entry age. For each such individual, the individual normal cost is the actuarial present value of projected benefits at entry age, divided by the actuarial present value of valuation earnings at entry age, multiplied by the individual's valuation earnings for the valuation year. The sum of all individual normal costs is the normal cost for the valuation year.

The excess on the actuarial valuation date of the actuarial present value of projected benefits for all individuals included in the actuarial valuation over the sum of the actuarial present values of future individual normal costs is the actuarial accrued liability. The excess of the actuarial accrued liability over the actuarial value of plan assets is the unfunded actuarial accrued liability. If the unfunded actuarial accrued liability is negative, the excess of the actuarial value of plan assets over the actuarial accrued liability is called the net asset balance.

The actuarial gain (loss) is a measure of the difference between actual experience and that expected based upon the actuarial assumptions between two actuarial valuation dates. Under this actuarial cost method, the actuarial gains (losses) are directly calculated and reduce (increase) the unfunded actuarial accrued liability.

Adjustments to the unfunded actuarial accrued liability can result from changes in actuarial assumptions and plan provisions. Such adjustments are determined by calculating, as of the actuarial valuation date, the increase or decrease in the unfunded actuarial accrued liability resulting from the change.

B. ACTUARIAL VALUE OF PLAN ASSETS

The actuarial value of plan assets is based on the market-related value of plan assets, with five-year smoothing of unexpected returns. The market-related value is equal to the value of net assets held in trust for pension benefits (fair value of investments plus the carrying value [net of depreciation] of other assets and liabilities) as of the valuation date.

Specifically, the actuarial value of assets is determined as the expected value of plan assets as of the valuation date plus 20% of the difference between the market-related value and the expected value. The expected value equals the actuarial value of plan assets as of the prior valuation date, plus contributions, less benefit payments and administrative expenses, all accumulated at the assumed rate of interest to the current valuation date.

C. OTHER ACTUARIAL VALUATION PROCEDURES

No provision was made in this actuarial valuation for the limitations of Internal Revenue Code Section 415.

Valuation payroll (earnings applied to the current valuation year) is the expected payroll for the fiscal year following the valuation date. It is based on reported payroll determined from August member contributions increased to reflect the across-the-board salary increase percentage effective on or after September 1 and projected according to the actuarial assumptions for the upcoming fiscal year.

No liability was included for benefits which are funded by special State appropriations.

State appropriations for membership fees have been ignored.

D. CHANGES IN ACTUARIAL METHODS AND PROCEDURES

No changes in the actuarial cost method have been adopted since the prior actuarial valuation. The available net asset balance is no longer calculated because the net asset balance is no longer sufficient to fund the excess of future normal costs over the current contribution rate indefinitely.

## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

### APPENDIX F

#### GASB 25 AND 27 REPORTING

#### A. DISCLOSURE OF PENSION INFORMATION

Actuarial calculations under Statement No. 25 of the Governmental Accounting Standards Board (GASB 25) are for purposes of providing the required supplementary information to the financial statement of the plan. The calculations and disclosures reported in this section have been made on a basis consistent with our understanding of GASB 25.

Beginning with the fiscal year ending August 31, 1996, the System has prepared the plan's financial statements in accordance with GASB 25, which supersedes GASB 5 for the plan's financial reporting. Effective with the fiscal year ending August 31, 1998, the State has prepared financial statements in accordance with Statement No. 27 of the Governmental Accounting Standards Board (GASB 27), which supersedes GASB 5 for the employer's financial reporting.

#### B. SCHEDULE OF FUNDING PROGRESS

	<u>Actuarial Valuation Date</u>	
	<u>August 31, 2003</u>	<u>August 31, 2002</u>
1. Actuarial Value of Assets	\$19,478,554,993	\$18,909,071,718
2. Actuarial Accrued Liability (AAL)	\$19,959,111,546	\$18,449,520,698
3. Unfunded AAL (UAAL): (2)-(1)	\$480,556,553	(\$459,551,020)
4. Funded Ratio: (1)÷(2)	97.6%	102.5%
5. Covered Payroll (Valuation Payroll as of the Actuarial Valuation Date)	\$4,800,611,900	\$4,979,531,987
6. UAAL as a Percentage of Covered Payroll: (3)÷(5)	10.0%	(9.2%)

C. SCHEDULE OF EMPLOYER CONTRIBUTIONS

	Year Ended August 31	
	2004	2003
1. Actuarial Valuation Date	August 31, 2003	August 31, 2002
2. Annual Required Contribution (ARC)		
a. Employer's Normal Cost (Percentage of Covered Payroll)	6.258%	6.709%
b. UAAL	\$480,556,553	(\$459,551,020)
c. Amortization of UAAL	\$23,743,931	(\$35,317,948)
d. Amortization of UAAL (Percentage of Covered Payroll)	0.495%	(0.456%)
e. ARC (Percentage of Covered Payroll): (a)+(d)	6.753%	6.253%
f. Covered Payroll	\$4,800,611,900*	\$4,986,410,107**
g. ARC: (e)x(f)	\$324,185,322	\$311,800,224
3. Employer Contributions		\$301,555,437
4. Percentage Contributed: (3) ÷ (2)(g)		96.7%
5. Excess Contributions/ (Contribution Deficiencies): (3)-(2)(g)		(\$10,244,787)

\* Valuation payroll as of the actuarial valuation date. After the end of the fiscal year, the dollar amount of the ARC will be recalculated based on the actual payroll for the fiscal year.

\*\* Estimated covered payroll for the fiscal year calculated from the actual State contributions for the fiscal year and the appropriated State contribution rate.

D. ANNUAL PENSION COST AND NET PENSION OBLIGATION

The State's annual pension cost and net pension obligation for the current and prior year were as follows:

	Year Ended August 31	
	2004	2003
1. Annual required contribution (ARC)	\$324,185,322*	\$311,800,224
2. Interest on net pension obligation	(12,275,873)	(12,706,747)
3. Adjustment to annual required contribution	(7,581,768)	(7,847,883)
4. Annual pension cost, APC: (1)+(2)-(3)	\$319,491,217	\$306,941,360
5. Employer contributions		(\$301,555,437)
6. Increase/(decrease) in net pension obligation: (4)+(5)		\$5,385,923
7. Net pension obligation beginning of year	(\$153,448,410)	(\$158,834,333)
8. Net pension obligation end of year: (6)+(7)		(\$153,448,410)

\* After the end of the fiscal year, the dollar amount of the ARC will be recalculated based on actual payroll for the fiscal year.

E. NOTES TO TREND DATA

	Year Ended August 31	
	2004	2003
Actuarial Cost Method	Entry Age	Entry Age
Amortization Method	Level Percent Open	Level Percent Open
Remaining Amortization Period (Years)	40.00**	40.00
Asset Valuation Method	5-year smoothed market	5-year smoothed market
Actuarial Assumptions:		
Investment Rate of Return*	8.0%	8.0%
Projected Salary Increases*	5.80% –10.8%	5.25% –17.5%
* Includes Inflation at Cost-of-living Adjustments	4.0%	4.0%
– employee class	None	None
– elected class	4.0%	6.0%

\*\* After the end of the year, the amortization period will be recalculated based on the revised dollar amounts of the ARC and APC.



**EMPLOYEES RETIREMENT SYSTEM OF TEXAS**APPENDIX GACTUARIAL METHODOLOGY AND PENSION TERMINOLOGYA. ACTUARIAL METHODOLOGY

This section summarizes the conceptual methodology used in preparing the Actuarial Balance Sheet in this valuation.

Actuarial Methodology

The actuarial valuation of a defined benefit plan is comprised of two separate processes.

First, the actuarial present value, as of the actuarial valuation date, of both current and projected benefits to be paid under the plan is determined. In determining the actuarial present value of these benefits, actuarial assumptions must be made as to the number of members eventually receiving benefits, the amount of benefits to be paid, and the portion of the benefit obligation to be covered by future investment earnings.

Second, the financing of these benefit obligations on an advance basis is established. An actuarial cost method is applied to determine the Actuarial Accrued Liability, which is the amount of the eventual cost that has accrued as of the actuarial valuation date. The actuarial cost method also establishes the Normal Cost, which is the rate at which future costs will accrue annually after the actuarial valuation date.

Actuarial Assumptions

The true cost of a member's pension benefit is not known until the final benefit payment has been made. Consequently, the exact cost of plan benefits for the current employee group will not be determinable for 50 to 75 years. Since provision for this cost must be made prior to the exact determination, a model is established that will estimate the future cost of plan benefits. The model utilizes parameters which require assumptions as to the future occurrences of various events affecting the demographic profile of the employee group and the assets of the pension fund. Such actuarial assumptions include death, retirement, termination, disability, salary increases and investment return. Current and long-term economic factors, the nature of the covered workforce, and significant features of the plan must be considered in the selection of a set of actuarial assumptions to assure the reasonableness of the results predicted by the actuarial assumptions.



While care is taken in the selection of actuarial assumptions, actual experience is expected to deviate from these actuarial assumptions over the short term. The suitability of the actuarial assumptions is measured by how closely the experience of the plan, on a long-term basis, conforms to projected results. Deviations from projected results are called actuarial gains and losses. Periodic actuarial valuations will measure the extent of these gains and losses as of an actuarial valuation date. If either actuarial gains or losses predominate, then it is possible that one or more of the actuarial assumptions is no longer appropriate. Thus, actuarial assumptions must be continually monitored for reasonableness and subsequent cost estimates may be modified accordingly. While individual actuarial assumptions are intended to be representative, it is the aggregate effect of all actuarial assumptions working together that determines their appropriateness.

### Actuarial Liabilities

Actuarial liabilities include the actuarial present value of all future benefits and expenses. To determine the actuarial present value of all future benefits, the probability of future events which establish benefit payments is forecast utilizing the actuarial assumptions. The plan provisions and current employee data are used to forecast the amount of benefits to be paid. Actuarial assumptions for survival among retired members are used to estimate the duration of these benefit payments. Each probable benefit payment is then discounted to the actuarial valuation date using the actuarial assumption for investment return. These discounted payments are then summed to arrive at the total actuarial present value of benefits.

### Assets

The assets at any time are equal to the sum of present assets in the pension fund plus future assets. Future assets will result from future contributions and future investment return on all assets.

### Actuarial Balance Sheet

The actuarial balance sheet of a retirement plan displays the fundamental financial status of the plan on the actuarial valuation date. As stated previously, the actuarial liabilities are the sum of the actuarial present value of all future projected benefit payments to current active and inactive plan members. Current assets in the pension fund plus the actuarial present value of future contributions comprise the total assets of the plan.

### Actuarial Cost Method

To determine the funding requirements of the plan, it is necessary to adopt an actuarial cost method. The choice of the actuarial cost method does not affect the actuarial balance sheet financial status, which is a function only of the plan provisions, actuarial assumptions, employee data and assets. However, the actuarial cost method has a direct impact on the incidence of the funding requirements. The actuarial cost method allocates the actuarial present value of future employer contributions between the past and future, and thus establishes the Unfunded Actuarial Accrued Liability and Normal Cost, respectively.

The funding requirements for each plan year equal the Normal Cost for that year plus an amortization payment in respect of the Unfunded Actuarial Accrued Liability.

B. PENSION TERMINOLOGY

The following terms are defined in accordance with standard pension terminology adopted by the actuarial profession.

Accumulated Plan Benefit

The amount of an individual's benefit (whether or not vested) as of a specified date, determined in accordance with the terms of a pension plan and based on compensation (if applicable) and service to that date.

Actuarial Accrued Liability

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; and other relevant items.

Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, in the form of a Normal Cost and an Actuarial Accrued Liability.

Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Value of Plan Assets

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

Actuarial Valuation

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Amortization Payment

That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Projected Benefits

Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.

Unfunded Actuarial Accrued Liability

The Excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

C. ACCOUNTING TERMINOLOGY

The following terms are defined in accordance with accounting profession terminology.

Actuarial Present Value of Total Projected Benefits

The value as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Total projected benefits include all benefits estimated to be payable to all plan members as a result of their service through the valuation date and their expected future service.

Amortization Period (Closed or Open Basis)

A closed amortization period is a specific number of years that is counted from one date and, therefore, declines to zero with the passage of time. An open amortization period is one that begins again or is recalculated at each actuarial valuation date.

Annual Pension Cost

A measure of the periodic cost of an employer's participation in a defined benefit pension plan.

Annual Required Contributions of the Employer (ARC)

The employer's periodic required contributions to a defined benefit pension plan, calculated in accordance with the parameters.

Contribution Deficiencies (Excess Contributions)

The difference between the annual required contributions of the employer (ARC) and the employer's actual contributions in relation to the ARC.

Employer's Contribution

Contributions made in relation to the annual required contributions of the employer (ARC).

Funded Ratio

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Investment Return Assumption (Discount Rate)

The rate used to adjust a series of future payments to reflect the time value of money.

Level Dollar Amortization Method

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as result of inflation, level dollar payments generally represent a decreasing percentage of payroll.

Level Percentage of Projected Payroll Amortization Method

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.

Market-Related Value of Plan Assets

A term used with reference to the actuarial value of assets. A market-related value may be market value (or estimated market value) or a calculated value that recognizes changes in market value over a period of, for example, three to five years.

Net Pension Obligation (NPO)

The cumulative difference since the effective date of GASB Statement between annual pension cost and the employer's contributions to the plan, including the pension liability (asset) at transition, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to pension-related debt.

Normal Cost

For GASB Statements 25 and 27, the term refers to employer normal cost.

Parameters

The set of requirements for calculating actuarially determined pension information included in financial reports.

Payroll Growth Rate

An actuarial assumption with respect to future increases in total covered payroll attributable to inflation; used in applying the level percentage of projected payroll amortization method.

Pension Expenditures/Expense

The amount recognized by an employer in each accounting period for contributions to a pension plan.