GOLDSTEIN & ASSOCIATES
Consulting Actuaries

GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS

ACTUARIAL VALUATION AS OF JUNE 30, 1991

GOLDSTEIN & ASSOCIATES
Consulting Actuaries

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October 3, 1991

Board of Trustees
General Assembly Retirement System of Illinois
2101 South Veterans Parkway
P.O. Box 19255
Springfield, Illinois 62794

Re: **Actuarial Valuation As Of June 30, 1991**

Dear Board Members:

I am pleased to submit my actuarial report on the financial position and funding requirements of the General Assembly Retirement System of Illinois based on the actuarial valuation as of June 30, 1991.

The report consists of 13 Sections and 2 Appendices as follows:

I would be pleased to discuss any aspects of this report with you and other interested persons.

Respectfully submitted,

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary No. 3402

C. RETIREMENT SYSTEM PROVISIONS

The regular actuarial valuation was based on the provisions of the retirement system in effect as of June 30, 1991 as provided in Article 2 of the Illinois Pension Code. A summary of the principal provisions of the system in effect as of June 30, 1991 is provided in Appendix 1.

D. ACTUARIAL ASSUMPTIONS AND COST METHOD

Actuarial Assumptions

The actuarial assumptions used for the June 30, 1991 actuarial valuation are the same as the actuarial assumptions used for the June 30, 1990 valuation. These actuarial assumptions were based on an experience analysis of the retirement system for the period 1984 through 1987. The major actuarial assumptions used for the current valuation are summarized below:

Mortality Rates. The UP-1984 Mortality Table was used for the valuation.

Termination Rates. Termination rates based on the recent experience of the system were used. The following termination rates were used:

Age	Rate of Termination
20 - 54	.080
55 and over	.000

<u>Disability Rates.</u> Disability rates based on the recent experience of the system as well as on published disability rate tables were used. The following is a sample of the disability rates that were used for the valuation:

Age	Rate of Disability
30	.00057
35	.00064
40	.00083
45	.00115
50	.00170

<u>Retirement Rates.</u> Rates of retirement for each age from 55 to 70 based on the recent experience of the system were used. The following are samples of the rates of retirement that were used:

Age	Rate of Retirement
55	.2
60	.1
65	.1
70	1.0

The above retirement rates are equivalent to an average retirement age of approximately 62.

Salary Increase. A salary increase assumption of 6.0% per year, compounded annually, was used. This 6% salary increase assumption can be considered to consist of an inflation component of 5% per year and a seniority/merit component of 1% per year.

Interest Rate. An interest rate assumption of 8.0% per year, compounded annually, was used. This interest rate assumption can be considered to consist of an inflation component of 5% per year and a real rate of return of 3% per year.

Marital Status. It was assumed that 75% of active members will be married at the time of retirement.

Spouse's Age. The age of the spouse was assumed to be 4 years younger than the age of the employee.

Actuarial Cost Method

The projected unit credit actuarial cost method was used for the June 30, 1991 valuation. Actuarial gains and losses are reflected in the unfunded actuarial liability. This is the same actuarial cost method that was used for the June 30, 1990 valuation.

E. ACTUARIAL LIABILITY

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 3. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability. (The actuarial terms used in this report are defined in Appendix 2).

As of June 30, 1991, the total actuarial liability is $84,468,429, the actuarial value of assets is $35,142,093, and the unfunded actuarial liability is $49,326,336. The ratio of the actuarial value of assets to the actuarial liability, or funded ratio, is 41.6%.

Exhibit 3

Actuarial Liability As of June 30, 1991

1. Actuarial Liability For Active Members		
	(a) Basic retirement annuity	$ 17,607,031
	(b) Annual increase in retirement annuity	4,364,689
	(c) Pre-retirement survivor's annuity	1,679,080
	(d) Post-retirement survivor's annuity	3,613,281
	(e) Withdrawal benefits	5,676,819
	(f) Disability benefits	178,453
	(g) Total	$ 33,119,353
2. Actuarial Liability For Members Receiving Benefits		
	(a) Retirement annuities	$ 37,551,741
	(b) Survivor annuities (Including reversionary)	7,446,601
	(c) Total	$ 44,998,342
3. Actuarial Liability For Inactive Members		$ 6,350,734
4. Total Actuarial Liability		$ 84,468,429
5. Actuarial Value of Assets		$ 35,142,093
6. Unfunded Actuarial Liability		$ 49,326,336
7. Funded Ratio		41.6%

F. EMPLOYER'S NORMAL COST

The employer's share of the normal cost for the year beginning July 1, 1991 is developed in Exhibit 4. For the year beginning July 1, 1991, the total normal cost is determined to be $2,494,202. Employee contributions are estimated to be $947,452. The resulting employer's share of the normal cost of $1,546,750.

Based on a payroll of $8,238,709, the employer's share of the normal cost can be expressed as 18.77% of payroll.

Exhibit 4

Employer's Normal Cost For Year Beginning July 1, 1991

		Dollar Amount	Per Cent of Payroll
1.	Basic retirement annuity	$ 1,149,702	13.95%
2.	Annual increase in retirement annuity	292,800	3.55
3.	Pre-retirement survivor's annuity	140,226	1.70
4.	Post-retirement survivor's annuity	220,452	2.68
5.	Withdrawal benefits	523,466	6.35
6.	Disability benefits	15,403	.19
7.	Administrative expenses	152,153	1.85
8.	Total normal cost	$ 2,494,202	30.27%
9.	Employee contributions	947,452	11.50
10.	Employer's share of normal cost	$ 1,546,750	18.77%

Note. The above figures are based on total active payroll of $8,238,709 as of June 30, 1991.

G. EMPLOYER'S FUNDING REQUIREMENT FOR YEAR BEGINNING JULY 1, 1991

Public Act 86-0273 enacted a funding plan for the system under which, starting with Fiscal Year 1990, the State's contribution shall be increased incrementally over a 7 year period so that by Fiscal Year 1996, the minimum State contribution shall be an amount that, when added to other sources of employer contribution is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percent of payroll, determined under the projected unit credit actuarial cost method.

Thus, Public Act 86-0273 has legislated the funding requirement for the system to be normal cost plus 40 years as a level percent of payroll amortization of the unfunded liability (after the completion of the phase-in period).

We have therefore determined an employer funding requirement for the year beginning July 1, 1991 based on the normal cost plus 40 year level percent of payroll amortization of the unfunded liability. Although the phase-in period provided in Public Act 86-0273 will not be complete until Fiscal Year 1996, this calculation provides a measure of the required State contributions for the year beginning July 1, 1991 under this approach in the absence of a phase-in period.

The employer's funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years at a level percent of payroll is developed in Exhibit 5. It can be seen from Exhibit 5 that for the year beginning July 1, 1991, the employer funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years as a level percent of payroll amounts to $3,646,100. Actual employer contributions for the year are estimated to amount to $1,965,600. Thus, employer contributions for the year are expected to fall short of meeting the employer funding requirement determined under this basis by $1,680,500. This deficiency in employer contributions can be expressed as 20.40% of payroll.

Exhibit 5

Funding Requirement For Year Beginning July 1, 1991

1. Employer's share of normal cost	$ 1,546,750
2. Amount required to amortize the unfunded liability over 40 years as a level percent of payroll	2,099,350
3. Employer's total funding requirement (1+2)	$ 3,646,100
4. Estimated employer contribution for the year	$ 1,965,600
5. Estimated amount by which employer contributions are expected to fall short of meeting the funding requirement (3-4)	$ 1,680,500

H. LEVEL DOLLAR EXPENSE REQUIREMENT UNDER APB OPINION NO. 8

Public Act 86-0273 provides for the amortization of the unfunded liability on a level percent of payroll basis. Accounting Principles Board Opinion No. 8, Accounting for the Costs of Pension Plans (APB Opinion No. 8) established certain standards for determining an employer's annual expense requirement under a pension plan. The minimum requirement for amortizing the unfunded liability specified under APB Opinion No. 8 is a 40 year amortization period and level dollar annual payments. The method specified under Public Act 86-0273 results in lower annual contributions in the early years of the amortization period and higher annual contributions in the later years than the APB Opinion No. 8 method. The expense requirement under APB Opinion No. 8 for the year beginning July 1, 1991 is determined as follows:

	Annual Amount	Percent of Payroll
Employer's normal cost	$ 1,546,750	18.77%
Annual amount to amortize the unfunded actuarial liability over 40 years through level dollar payments	3,966,638	48.15
Total expense requirement	$ 5,513,388	66.92%

Expense Requirement For Fiscal Year Ended June 30, 1991

Based on the results of our June 30, 1990 actuarial valuation and payroll of $7,254,510 as of June 30, 1990, we have determined the minimum pension expense for Fiscal Year 1991 under APB Opinion No. 8 to be $5,249,439, or 72.36% of covered payroll.

I. STATE APPROPRIATION REQUIREMENTS FOR FISCAL YEARS 1993-1996

Public Act 86-0273 which was signed into law on August 23, 1989 enacted the following funding plan for the system:

"Starting with the fiscal year which ends in 1990, the State's contribution shall be increased incrementally over a 7 year period so that by the fiscal year which ends in 1996, the minimum contribution to be made by the State shall be an amount that, when added to other sources of employer contributions, is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percentage of payroll, determined under the projected unit credit actuarial cost method. The State contribution, as a percentage of the applicable employee payroll, shall be increased in equal annual increments over the 7 year period until the funding requirement specified above is met."

Based on the June 30, 1991 actuarial valuation, we have determined the required contributions under this plan for Fiscal Years 1993-1996. The required contribution rates and amount are as follows:

Fiscal Year	Normal Cost	Amortization of Unfunded Liability	Total Required Rate	Assumed Payroll	Total Required Contributions
1993	18.77%	10.38%	29.15%	8,651,000	2,522,000
1994	18.77%	15.67%	34.44%	9,083,000	3,128,000
1995	18.77%	20.96%	39.73%	9,537,000	3,789,000
1996	18.77%	26.25%	45.02%	10,014,000	4,508,000

The contribution requirements are shown on a gross basis. The regular State appropriation requirement can be determined by adjusting for State Pension Fund appropriations and other sources of employer contributions.

The contribution requirements shown above have been determined using the actuarial assumptions and membership data that were used for the regular June 30, 1991 actuarial valuation. In order to determine the projected contribution rates and amounts, the following additional assumptions and estimates were used:

1. Total payroll of $8,651,000, for Fiscal Year 1993.
2. Assumed increase in total payroll of 5% per year.
3. Total employer contributions of $1,965,600 for Fiscal Year 1992.

<u>Method of Calculation</u>

The above contribution rates were determined in the following manner:

The projected unit credit actuarial cost method was used. The difference between the total Fiscal Year 1992 appropriation and the required normal cost for Fiscal Year 1992 was considered the 1992 amortization payment, and this payment was converted to a percentage of the expected 1992 payroll. An amortization schedule was then determined using the following approach:

1. The unfunded actuarial liability existing as of June 30, 1991 was determined to be $49,326,336.

2. Amortization rates for Fiscal Years 1993-1996 were determined in such a manner that the rate for any one year would exceed the rate for the previous year by a uniform percentage of payroll.

3. The amortization rates for Fiscal Years 1996-2035 would be a uniform percentage of payroll.

The normal cost rate calculated on the basis of the June 30, 1991 valuation was assumed to remain unchanged for future years at 18.77% of payroll.

In the future, amortization schedules will be revised on the assumption that the amortization will be completed by June 30, 2035, that the rates for Fiscal Years after 1995 will be a uniform percentage of payroll, and that 1993-1996 is a phase-in period. There will be no phase-in period for changes in normal cost.

J. RECONCILIATION OF CHANGE IN UNFUNDED LIABILITY

The net actuarial experience during the period July 1, 1990 to June 30, 1991 resulted in an increase in the system's unfunded actuarial liability of $4,145,376. This increase in unfunded liability is a result of several kinds of gains and losses as illustrated in Exhibit 6.

The employer funding requirement for the year of normal cost plus interest on the unfunded actuarial liability amounted to $ 5,094,188, whereas the actual employer contribution for the year amounted to $2,072,600. Thus, the employer contribution for the year fell short of meeting normal cost plus interest on the unfunded liability by $3,021,588. Had all aspects of the system's experience been in line with the actuarial assumptions, the unfunded liability would have increased by this amount.

The net rate of investment return earned by the assets of the system, on the basis of assets valued at cost, was approximately 6.5% in comparison with the assumed rate of investment return of 8.0%. This resulted in a increase in the unfunded liability of $485,821. The average salary for the year remained approximately the same as for the previous year, in comparison with an assumed rate of increase of 6.0% per year, resulting in a decrease in the unfunded liability of $1,720,691.

The various other aspects of the system's experience resulted in a net increase in the unfunded liability of $2,358,658.

The aggregate financial experience of the system resulted in an increase in the unfunded liability of $4,145,376.

Exhibit 6

Reconciliation of Change in Unfunded Liability
Over the Period July 1, 1990 to June 30, 1991

1.	Unfunded actuarial liability as of 7/1/90	$ 45,180,960
2.	Employer contribution requirement of normal cost plus interest on the unfunded liability for the period 7/1/90 to 6/30/91	5,094,188
3.	Actual employer contribution for the year	2,072,600
4.	Increase in unfunded liability due to employer contributions being less than normal cost plus interest on unfunded liability	3,021,588
5.	Increase in unfunded liability due to investment return lower than assumed	485,821
6.	Decrease in unfunded liability due to salary increases lower than assumed	1,720,691
7.	Increase in unfunded liability due to other sources	2,358,658
8.	Net increase in unfunded liability for the year (4+5+7-6)	$ 4,145,376
9.	Unfunded actuarial liability as of 6/30/91 (1+8)	$ 49,326,336

K. ACTUARIAL PRESENT VALUE OF CREDITED PROJECTED BENEFITS

Governmental Accounting Standards Board (GASB) Statement No. 5, entitled Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Governmental Employers, establishes standards of disclosure of pension information by public employee retirement systems.

GASB Statement No. 5 requires the disclosure of the actuarial present value of credited projected benefits as the standardized measure of the accrued pension obligation. This measure represents the discounted value of the amount of benefits estimated to be payable in the future as a result of employee service to date, computed by attributing an equal benefit amount to each year of service of the employee.

In Exhibit 7, we have shown the actuarial present value of credited projected benefits in the format prescribed in GASB Statement No. 5. It can be seen that the total actuarial present value of credited projected benefits of $84,468,429 is the same as the total actuarial liability under the projected unit credit actuarial cost method.

Exhibit 7

Actuarial Present Value of Credited Projected Benefits

1. For members in receipt of benefits and for inactive members	$ 51,349,076
2 For current employees	
Accumulated employee contributions	7,284,025
Employer-financed vested	17,705,200
Employer-financed nonvested	8,130,128
3. Total actuarial present value of credited projected benefits	$ 84,468,429
4. Net assets available for benefits, at cost (Market value is $ 39,088,451)	$ 35,142,093
5. Unfunded actuarial present value of credited projected benefits	$ 49,326,336

L. TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES

Based on the results of the June 30, 1991 valuation and using the actuarial assumptions used for the valuation, we have projected valuation results for a 20 year period commencing with Fiscal Year 1992. Projections were done under the following alternative basis for determining State contributions to the system:

Basis 1. State contributions are based on the funding requirements of Public Act 86-0273.

Basis 2. State contributions are based on 45% of total benefit payout. For the most recent year in which State contributions were determined on the basis of payout, this was approximately the relation between State contributions and total benefit payout.

We have also assumed that the total payroll would increase at the rate of 5% per year. The results of our projections are shown in Exhibits 8 and 9.

M. CERTIFICATION

This actuarial report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of my knowledge, fairly represents the financial condition of the General Assembly Retirement System of Illinois as of June 30, 1991.

Respectfully submitted,

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary 3402

EXHIBIT 8

GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(Assumes State Contributions Are Based on Public Act 86-0273)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30							
	1992	1993	1994	1995	1996	2001	2006	2011
BASIC DATA								
1. Number of Active Members	195	195	195	195	195	195	195	195
2. Expected Total Payroll	$ 8.2	$ 8.7	$ 9.1	$ 9.5	$ 10.0	$ 12.8	$ 16.3	$ 20.8
VALUATION RESULTS								
3. Actuarial Liability	$ 87.3	$ 90.2	$ 93.2	$ 96.2	$ 99.3	$117.9	$141.9	$173.0
(Retired Lives Reserved)	(43.1)	(44.5)	(46.0)	(47.5)	(49.0)	(58.0)	(69.7)	(85.0)
4. Assets (Book)	$ 35.6	$ 36.5	$ 37.8	$ 39.7	$ 42.2	$ 57.6	$ 81.1	$117.9
5. Unfunded Actuarial Liability	$ 51.7	$ 53.7	$ 55.4	$ 56.5	$ 57.1	$ 60.3	$ 60.8	$ 55.1
(Funded Percentage)	(40.8)	(40.4)	(40.6)	(41.2)	(42.5)	(48.9)	(57.1)	(68.1)
6. Annual Normal Cost								
(a) Total	$ 2.5	$ 2.6	$ 2.8	$ 2.9	$ 3.1	$ 3.9	$ 5.0	6.4
(b) Employee Contributions	.9	1.0	1.0	1.1	1.2	1.5	1.9	2.4
(c) Employers Share	1.6	1.6	1.8	1.8	1.9	2.4	3.1	4.0
(% of Total Payroll)	(18.24)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)
7. State Contribution*	$ 2.0	$ 2.5	$ 3.1	$ 3.8	$ 4.5	$ 5.8	$ 7.3	$ 9.4
(% of Total Payroll)	(23.86)	(29.15)	(34.44)	(39.73)	(45.02)	(45.02)	(45.02)	(45.02)
8. Estimated Benefit Payout	$ 4.5	$ 4.7	$ 4.9	$ 5.1	$ 5.3	$ 6.3	$ 7.6	$ 9.3

* State Contributions are based on the funding requirements of Public Act 86-0273.

EXHIBIT 9

GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(Assumes State Contribution Equals 45% of Benefit Payments)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30							
	1992	1993	1994	1995	1996	2001	2006	2011
BASIC DATA								
1. Number of Active Members	195	195	195	195	195	195	195	195
2. Expected Total Payroll	$ 8.2	$ 8.4	$ 8.9	$ 9.3	$ 9.8	$ 12.5	$ 15.9	$ 20.3
VALUATION RESULTS								
3. Actuarial Liability	$ 87.3	$ 90.2	$ 93.2	$ 96.2	$ 99.3	$117.9	$141.9	$173.0
(Retired Lives Reserved)	(43.1)	(44.5)	(46.0)	(47.5)	(49.0)	(58.0)	(69.7)	(85.0)
4. Assets (Book)	$ 35.6	$ 36.1	$ 36.4	$ 36.7	$ 37.0	$ 37.3	$ 34.9	$ 27.4
5. Unfunded Actuarial Liability	$ 51.7	$ 54.1	$ 56.8	$ 59.5	$ 62.3	$ 80.6	$107.0	$145.6
(Funded Percentage)	(40.8)	(40.0)	(39.1)	(38.2)	(37.2)	(31.7)	(24.6)	(15.8)
6. Annual Normal Cost								
(a) Total	$ 2.5	$ 2.6	$ 2.7	$ 2.8	$ 3.0	$ 3.8	$ 4.9	6.2
(b) Employee Contributions	.9	1.0	1.0	1.1	1.1	1.4	1.8	2.3
(c) Employers Share	1.6	1.6	1.7	1.7	1.9	2.4	3.1	3.9
(% of Total Payroll)	(18.24)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)	(19.01)
7. State Contribution*	$ 2.0	$ 2.1	$ 2.2	$ 2.3	$ 2.4	$ 2.8	$ 3.4	$ 4.2
(% of Total Payroll)	(23.86)	(24.85)	(24.79)	(24.61)	(24.41)	(22.67)	(21.46)	(20.60)
8. Estimated Benefit Payout	$ 4.5	$ 4.7	$ 4.9	$ 5.1	$ 5.3	$ 6.3	$ 7.6	$ 9.3

* State Contribution equals 45% of projected benefit payments and administrative expenses (excluding refunds).

Appendix 1

Summary of Principal Provisions

1. Participation. A person eligible for membership must participate in the system as a condition of employment unless an "Election Not to Participate" is filed within 24 months from the date of assuming office.

2. Member Contributions. All members of the system are required to contribute to the system the following percentage of their salaries:

Retirement Annuity	8.5%
Automatic Annuity Increase	1.0
Survivor's Annuity	2.0
Total	11.5%

3. Retirement Annuity - Eligibility. A member who has at least 8 years of creditable service is entitled to a retirement annuity upon attainment of age 55. A member with at least 4 years of service but less than 8 years of service is entitled to a retirement annuity upon attainment of age 62.

A member with at least 8 years of service who becomes disabled while in service is entitled to a retirement annuity regardless of age.

4. Retirement Annuity - Amount. The retirement annuity is determined according to the following formula based upon the member's final rate of salary:

3.0% for each of the first 4 years of service, plus
3.5% for each of the next 2 years of service, plus
4.0% for each of the next 2 years of service, plus
4.5% for each of the next 4 years of service, plus
5.0% for each year of service in excess of 12

The maximum retirement annuity is 85% of the final base of salary.

5. Automatic Increase In Retirement Annuity. (a) Annual automatic increases of 3% of the current amount of retirement annuity are provided. The initial increase is effective in the month of January of the year next following the year in which the first anniversary of retirement occurs, but in no event prior to attainment of age 60.

(b) Beginning January 1, 1990, for participants who remain in service after attaining 20 years of creditable service, 3% annual automatic increases begin to accrue on January 1 next following the date the participant attains age 55 or completes 20 years of creditable service, whichever occurs later. However, such increases shall not become payable until January 1 next following the first anniversary of retirement.

6. Survivor's Annuity - Eligibility. A surviving spouse without children is eligible for survivor benefits at age 50 or over provided marriage to the

member had been in effect for at least 1 year immediately prior to the member's death.

A surviving spouse with unmarried eligible children of the member is eligible for a survivor's annuity benefit at any age provided the above marriage requirements have been met. When all children are disqualified because of death, marriage or attainment of age 18, the spouse's benefit is suspended if the spouse is under age 50 until the attainment of such age.

An unmarried child of the member under the age of 18 may qualify for the survivor's annuity if there is no surviving spouse or if the spouse remarries prior to attainment of age 55 or dies.

If the member dies in service as a member, the member must have at least 2 years of service credit for survivor's annuity eligibility. If death occurs after termination of service but before retirement, the deceased member must have at least 8 years of service credit for survivor's annuity eligibility.

7. <u>Survivor's Annuity - Amount.</u> (a) A surviving spouse is entitled to a survivor's annuity of 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, without regard to whether the member had attained age 55 as of the time of death, subject to a minimum payment of 10% of salary.

(b) If a surviving spouse has in his or her care eligible children of the member, the survivor's annuity shall be the greater of the following:
(1) 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, or (2) 30% of the member's salary increased by 10% of salary on account of each eligible child. If only unmarried children survive, each such child shall be entitled to an annuity of 20% of salary, subject to a maximum total payment for all children of 50% of salary.

(c) Upon the death of a member after termination of service, or upon the death of an annuitant, the maximum total payment to a surviving spouse and eligible children, or eligible children alone if there is no surviving spouse, shall be 75% of the retirement annuity to which the member or annuitant was entitled.

(d) Survivor's annuities are subject to annual automatic increases of 3% of the current amount of annuity.

(e) The minimum survivor's annuity provided by the system is $300 per month.

8. <u>Refund of Contributions.</u> Upon termination of service, a member is entitled to a refund of his total contributions without interest.

If unmarried at the time of retirement, a member is entitled to a refund of his or her contributions for the survivor's annuity.

Appendix 2

Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.

3. Normal Cost. That portion of the actuarial present value of pension plan benefits which is allocated to a valuation year by the actuarial cost method.

4. Actuarial Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.

5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.

6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.

7. Projected Unit Credit Actuarial Cost Method. A cost method under which the projected benefits of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the actuarial liability.

Under this method, the actuarial gains (losses), as they occur, generally reduce (increase) the unfunded actuarial liability.

8. Actuarial Assumptions. Assumptions as to future events affecting pension costs.

9. Actuarial Valuation. The determination, as of a valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.