STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS

ACTUARIAL VALUATION COMPLETED AS OF JUNE 30, 1988

Chicago, Illinois
October, 1988

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INTRODUCTION

The law governing the State Employees' Retirement System requires the Actuary, as the technical advisor to the Board of Trustees to:

> ...make an annual valuation of the liabilities and reserves of this System, an annual determination of the amount of contributions required from the State under this Article, and certify the results thereof to this board. (Chapter 108 1/2, Par. 14-138).

The Wyatt Company, as Actuary, has completed a valuation as of June 30, 1988, based upon membership and financial data compiled by the administrative staff of the System, and the results of the valuation are presented in this report.

In prior valuations, the calculation of the survivors annuity for survivors of covered employees was made on the assumption that the 50% minimum guarantee of §14-121(i) was applied after the reduction for social security benefits under §14-121(g). It was learned this year that administratively the procedure is the reverse. The calculation has been corrected in the current valuation resulting in a 1.8% reduction in actuarial liability for the 1988 valuation.

The valuation was completed using the same actuarial assumptions and methods as used in our prior valuation. The assumptions, which were based on our experience review for the five years ending June 30, 1985, are described in detail beginning on page 20.

Changes Since Last Valuation

Since the last valuation there has been one amendment (HB2630/PA1472) which has affected SERS costs and liabilities. 158 members of the Teachers' Retirement System who were employed by the Department of Corrections elected to transfer to SERS as noncovered employees effective July 1, 1987. Changes in the valuation results are also due to changes in membership data and fund assets.

Summarized below are certain important results for both years.

		June 30, 1987	June 30, 1988
1.	Number of Active Members	74,717	74,923
2.	Reported Earnings (Average)	$1,771,818,583 ($23,714)	$1,876,849,234 ($25,050)
3.	Number of Members Receiving Payments	32,322	32,868
4.	Annual Benefit Payments (Average)	$155,586,877 ($4,814)	$ 167,225,152 ($5,088)
5.	Assets: (a) Book Value (b) Market Value	 $2,225,883,146 $2,430,603,635	 $2,381,806,066 $2,499,972,641
6.	State Normal Cost Payroll	$65,157,458 (3.55%)	$ 60,696,742 (3.13%)
7.	Actuarial Liability (Funded Percentage)	$3,417,908,944 (65.1%)	$3,641,579,030 (65.4%)
8.	Unfunded Actuarial Liability	$1,192,025,798	$1,259,772,964

The increase in the unfunded actuarial liability of $67,747,166 was due to the following:

1.	Contribution being less than the amount necessary to fund normal cost and interest on the unfunded.	
	(a) Unfunded at 6/30/87	$ 1,192,025,798
	(b) Contributions Due	
	(i) Interest on the unfunded to 6/30/88	$ 95,362,064
	(ii) Total Normal Cost due 6/30/87	151,592,824
	(iii) Interest on Normal Cost to 6/30/88	12,127,426
	(iv) Total Due	$ 259,082,314
	(c) Contributions Paid	
	(i) Participants	$ 95,928,239
	(ii) Employing State Agencies and appropriations	99,990,922
	(iii) Interest on contributions to 6/30/88	7,686,004
	(iv) Total Paid	$ 203,605,165
	(d) Increase in the Unfunded (b) minus (c)	$ 55,477,149
2.	Actuarial (Gains) Losses	
	(a) Loss from investment return less than 8%	$ 29,544,739
	(b) Loss from salary increases greater than 6-1/2%	$ 11,318,379
	(c) Loss from retirement at other then the expected age	$ 17,237,492
	(d) Loss from fewer terminations than expected	$ 13,237,063
	(e) Losses from other sources	$ 6,316,478
3.	Non-Recurring Items	
	(a) (Decrease) due to correction of Survivor Benefits	$ (66,215,890)
	(b) Increase due to plan amendment (HB2630/PA-1472)	$ 831,756
4.	Total	$ 67,747,166
5.	Unfunded Actuarial Liability at June 30, 1988	$1,259,772,964

APPROPRIATION REQUIREMENTS FOR
FISCAL YEAR JULY 1, 1989 - JUNE 30, 1990

The law governing the System imposes upon the Board of Trustees the duty of certifying:

> ...in each fiscal year to each department the percent of contribution, based upon employees' compensation, required to be paid to the system during the succeeding fiscal year, upon recommendation of the actuary. (Chapter 108 1/2, Par. 14-135.08).

The law also provides that:

> Contributions to the System by the State to meet the requirements of this Article shall be appropriations to each department, or from monies otherwise made available for this purpose, of amounts which, together with members' contributions, interest income from investments and other income received by the system, shall be sufficient to meet the cost of maintaining and administering the system on a funded basis in accordance with actuarial reserve requirements. (Chapter 108 1/2, Par. 14-131).

The law defines "actuarial reserves" as follows:

> An accumulation of funds in advance of benefit payments which will be sufficient with respect to each member and his beneficiaries, if any, to pay the prescribed benefits, computed according to the actuarial tables, without further contributions by or on behalf of the member. (Chapter 108 1/2, Par. 14-103.21).

These requirements are met by a contribution equal to the Normal Cost plus an amount to amortize the Unfunded Actuarial Liability. The Board of Trustees has adopted the policy of amortizing the Unfunded Actuarial Liability, on a level percent of payroll basis, by June 30, 2028. The required contribution is thus determined as follows.

	% of Payroll(1)	Annual Contribution(1)
Normal Cost	3.125%	$ 68,750,000
Amortization of the Unfunded Actuarial Liability By June 30, 2028(2)	3.089%	$ 67,965,553
Total Contribution	6.214%	$136,715,553

(1) Based upon an assumed payroll of $2,200,000,000 for Fiscal Year July 1, 1989 - June 30, 1990.

(2) Assumes total payroll increases by 4.00% annually.

Alternative Contribution Amounts

We have not shown alternative contribution amounts. This results from a legal opinion obtained for the Board regarding the statutory application of the Entry Age Normal Cost Method. There are however, other actuarial costs methods which may be appropriate for funding the System.

We have calculated costs under the Projected Unit Credit Cost Method. This is the same method that was used to determine the GASB Value of Accrued Pension Benefit Obligation (Table 3). We have assumed that the unfunded value of accrued benefits is amortized by annual payments that are a level percent of payroll.

Level Percent of Payroll Amortization

	% of Payroll(1)	Annual Contribution(1)
Normal Cost	2.312%	$ 50,864,000
Amortization of the Unfunded Value of Accrued Benefits by June 30, 2028 (2)	2.719%	$ 59,823,141
Total Contribution	5.031%	$110,687,141

(1) Based upon an assumed payroll of $2,200,000,000 for Fiscal Year July 1, 1989 - June 30, 1990.

(2) Assumes total payroll increases by 4.00% annually.

20 Year Projection

Based on the results of our valuation and the assumptions used therefor, we have projected what the valuation results will be for the next 20 years under the Entry Age Normal Cost method. Two projections were made. The first projection was completed on the assumption that the State makes contributions equal to 48% of the estimated annual benefit payments and administrative expenses (excluding refunds), as this is the basis for current State contributions. The second projection was completed on the assumption that the State makes contributions equal to the Normal Cost plus an amount to amortize the Unfunded Actuarial Liability, on a level percentage of pay basis, by June 30, 2028.

The results of these projections are shown in Tables 2a and 2b. Certain key results are summarized below. ($ amounts are in millions.)

	Fiscal Year Ending				
	6/30/89	6/30/94	6/30/99	6/30/04	6/30/09
Number of Active Members	74,923	74,923	74,923	74,923	74,923
Payroll	$2,100	$2,574	$3,131	$3,810	$4,635
State Normal Cost	$75	$120	$143	$171	$206
(% Payroll)	(3.55%)	(3.09%)	(2.95%)	(2.89%)	(2.88%)
Actuarial Liability	$3,896	$5,415	$7,419	$9,942	$12,335
Contribution Based on 48% of Benefit Payments					
Assets (Book Value)	$2,560	$3,655	$5,173	$7,216	$ 9,309
(Funded %)	(65.7%)	(67.5%)	(69.7%)	(72.6%)	(75.5%)
Contribution Based on Normal Cost plus Amortization of UAL					
Assets (Book Value)	$2,598	$3,959	$5,781	$8,153	$10,472
(Funded %)	(66.7%)	(73.1%)	(77.9%)	(82.0%)	(84.9%)

GASB: Value of Accrued Pension Benefit Obligation

Statement Number 5 of the Governmental Accounting Standards Board sets forth certain standards of financial accounting and reporting for the annual financial statements of a defined benefit pension plan.

This statement requires the disclosure of actuarial present value of credited projected benefits, and the effect of any changes in actuarial assumptions or benefit provisions. The actuarial present value of credited projected benefits is a standardized measure of the accrued pension benefit obligation. It is the discounted amount of benefits estimated to be payable in the future as a result of employee service through the balance sheet date, computed by attributing an equal benefit amount (including the effects of projected salary increases and step-rate benefits) to each year of credited and expected future employee service.

This measure of the pension benefit obligation was computed for both this year's and last year's valuation, using the same assumptions as were used to process the valuation. Summarized below are key results for both years.

Actuarial Present Value (APV) of Credited Projected Benefits	June 30, 1987	June 30, 1988
Accumulated Contributions of current employees	$ 859,782,136	$ 947,077,130
Accumulated Contributions of inactive members	41,174,943	45,814,181
Payable to Retirees and Beneficiaries	1,445,207,627	1,546,828,161
Payable to Terminated Employees not yet receiving benefits - employer-financed portion	16,999,775	14,605,254
Payable to Vested Current Employees - employer-financed portion	888,252,004	886,198,521
Payable to Nonvested Current Employees - employer-financed portion	52,828,986	50,132,422
Total APV of Credited Projected Benefits	$3,304,245,471	$3,490,655,669
Net Assets available for benefits (Market value at June 30, 1988 is $2,499,972,641)	$2,225,883,146	$2,381,806,066
Unfunded APV of Credited Projected Benefits	$1,078,362,325	$1,108,849,603

Compared to the assets valued on the same basis as for funding purposes, the credited projected benefits are 68.2% funded compared with 67.4% last year. Changes in benefit provisions and reporting procedures since the last valuation had the following effects on the actuarial present value of credited projected benefits:

1.	Increase due to plan amendment (HB2630/PA-1472)	$ 601,673
2.	(Decrease) due to correction in calculation of Survivor Benefits	($56,182,077)

APB8: Level Dollar Funding

The Board of Trustees has adopted a policy of amortizing the Unfunded Actuarial Liability, on a level percent of payroll basis, by June 30, 2028. Accounting Principals Board Opinion No. 8 sets forth requirements for amortizing the Unfunded Actuarial Liability of a defined benefit plan. The minimum requirements specified by APB8 are a 40 year amortization period and level dollar annual payments. The Board's policy results in lower annual contributions in the early years of the amortization period and higher annual contributions in the later years than the APB8 method. Either method is designed to complete the amortization by June 30, 2028. The Fiscal Year 1990 contribution required by the Board is given on page 4. The Fiscal Year 1990 contribution under APB8 would be determined as follows:

	% of Payroll(1)	Annual Contribution(1)
Normal Cost	3.125%	$ 68,750,000
Amortization of the Unfunded Actuarial Liability with level annual payments By June 30, 2028	5.010%	$110,214,706
Total Contribution	8.135%	$178,964,706

(1) Based upon an assumed payroll of $2,200,000,000 for Fiscal Year July 1, 1989 - June 30, 1990.

Expenses for Fiscal Year Ended June 30, 1988

Based on the results of our valuation as of June 30, 1986, and actual covered payroll for the year July 1, 1987 to June 30, 1988 of $1,953,960,000, the minimum pension expense for fiscal year 1988 would be $174,888,236 or 8.950% of actual covered payroll.

The remainder of this report is comprised of the following:

Table 1	-	Results of Actuarial Valuation
Table 2	-	Fifteen Year Projection
Table 3	-	Value of Credited Projected Benefits (GASB)
Table 4	-	Value of Accumulated Plan Benefits
Table 5	-	Analysis of Financial Experience

Description of Actuarial Method and Assumptions

Summary of Plan Provisions

To the best of our knowledge this actuarial statement is complete and accurate and has been prepared in accordance with generally accepted actuarial principals and practice.

Respectfully submitted,

THE WYATT COMPANY

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Fellow of The Society of Actuaries

Chicago, Illinois
October, 1988

Table 1

STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS

RESULTS OF ACTUARIAL VALUATION AS OF JUNE 30, 1988

MEMBER DATA

1. Number of Members	
(a) Active	74,923
(b) Inactive:	
(i) Eligible for deferred vested pension benefits	2,140
(ii) Eligible for return of contributions only	19,438
(c) For Benefit Recipients:	
(i) Retirement Annuities	23,038
(ii) Survivor Annuities	8,296
(iii) Disability Annuities	1,534
(d) Deferred:	
(i) Retirement Annuities	39
(ii) Survivor Annuities	159
(e) Total	129,567
2. Annual Reported Earnings	$1,876,849,234
3. Annual Benefit Payments Currently Being Made:	
(a) Retirement	$136,138,148
(b) Survivor	19,758,640
(c) Disability	11,328,364
(d) Total	$167,225,152

VALUATION RESULTS

4. Actuarial Liability for Annuitants:	
(a) For Benefit Recipients:	
(i) Retirement Annuities	$1,319,780,926
(ii) Survivor Annuities	158,985,739
(iii) Disability Annuities	61,608,504
(b) Deferred:	
(i) Retirement Annuities	1,096,076
(ii) Survivor Annuities	5,356,916
(c) Total	$1,546,828,161
5. Actuarial Liability for Inactive Members:	
(a) Eligible for deferred vested pension benefits	$53,498,075
(b) Eligible for return of contributions only	6,921,360
(c) Total	$60,419,435

	Normal Cost	Actuarial Liability
6. Active Members:		
(a) Pension Benefits	$53,312,238	$1,495,139,191
(b) Cost-of-Living Adjustments	20,630,072	225,450,694
(c) Death Benefits:		
(i) Occupational	1,574,403	5,208,812
(ii) Survivor & Widow	14,440,426	93,027,307
(iii) Non-Occupational	403,569	2,003,227
(iv) Refund	4,898,981	38,873,854
(v) Total	$21,317,379	$139,113,200
(d) Disability:		
(i) Occupational	5,512,039	24,642,808
(ii) Non-Occupational	8,930,758	56,685,701
(iii) Total	14,442,797	81,328,509
(e) Withdrawal	37,751,824	93,299,840
(f) Expenses	4,490,000	---
(g) Total	$151,944,310	$2,034,331,434
7. Total Actuarial Liability		$3,641,579,030
8. Assets (Book)		$2,381,806,066
9. Unfunded Actuarial Liability		$1,259,772,964
10. Employee Contributions	$91,247,568	
11. Annual Normal Cost to be Provided by the State (% Payroll)	$60,696,742 (3.125%)	

ANNUAL FUNDING REQUIREMENT

12. Entry Age Normal	
(a) Annual Normal Cost as a percent of payroll	3.125%
(b) Level Percent of Payroll Amount to Amortize Unfunded Actuarial Liability by 6/30/2028	$67,965,553
(c) Total Amount for fiscal Year Ending June 30, 1990, Based on payroll of $2.200 billion (% payroll)	$136,715,553 (6.214%)

Table 2a

STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(Assumes State Contributions Equal to 48% of Benefit Payments)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30								
	1989	1990	1991	1992	1993	1994	1999	2004	2009
BASIC DATA									
1. Number of Active Members	74,923	74,923	74,923	74,923	74,923	74,923	74,923	74,923	74,923
2. Expected Total Payroll *	$2,100	$2,200	$2,288	$2,380	$2,475	$2,574	$3,131	$3,810	$4,635
VALUATION RESULTS - ENTRY AGE NORMAL									
3. Actuarial Liability	$3,896	$4,167	$4,453	$4,755	$5,076	$5,415	$7,419	$9,942	$12,335
(Retired Lives Reserves)	(1,604)	(1,661)	(1,721)	(1,785)	(1,857)	(1,942)	(2,597)	(3,844)	(5,401)
4. Assets (Book)	$2,560	$2,751	$2,955	$3,172	$3,405	$3,655	$5,173	$7,216	$9,309
5. Unfunded Actuarial Liability	$1,336	$1,416	$1,498	$1,583	$1,670	$1,761	$2,246	$2,726	$3,026
(Funded Percentage)	(65.7)	(66.0)	(66.4)	(66.7)	(67.1)	(67.5)	(69.7)	(72.6)	(75.5)
6. Annual Normal Cost **									
(a) Total	$174	$172	$181	$187	$193	$199	$236	$281	$339
(b) Employee Contributions	99	103	108	111	115	120	143	171	206
(c) Balance	75	69	74	75	77	79	92	110	134
(% Total Payroll)	(3.55)	(3.13)	(3.21)	(3.17)	(3.12)	(3.09)	(2.95)	(2.89)	(2.88)
7. State Contribution ***	$92	$97	$102	$108	$113	$119	$158	$220	$300
(% Total Payroll)	(4.36)	(4.41)	(4.47)	(4.53)	(4.57)	(4.62)	(5.04)	(5.78)	(6.47)

* Total payroll as advised by the Board for FY 1989 and FY 1990, increasing by 4.00% per annum thereafter.

** Normal Cost rate as certified by the Board based on the valuation for the second preceding fiscal year (includes Administrative Expenses).

*** State Contribution equals 48% of projected benefit payments and administrative expenses (excluding refunds).

THE Wyatt COMPANY

Table 2b

STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(State Contributions Based on Board's Recommendation)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30								
	1989	1990	1991	1992	1993	1994	1999	2004	2009
BASIC DATA									
1. Number of Active Members	74,923	74,923	74,923	74,923	74,923	74,923	74,923	74,923	74,923
2. Expected Total Payroll *	$2,100	$2,200	$2,288	$2,380	$2,475	$2,574	$3,131	$3,810	$4,635
VALUATION RESULTS - ENTRY AGE NORMAL									
3. Actuarial Liability	$3,896	$4,167	$4,453	$4,755	$5,076	$5,415	$7,419	$9,942	$12,335
(Retired Lives Reserves)	(1,604)	(1,661)	(1,721)	(1,785)	(1,857)	(1,942)	(2,597)	(3,844)	(5,401)
4. Assets (Book)	$2,598	$2,833	$3,087	$3,359	$3,649	$3,959	$5,781	$8,153	$10,472
5. Unfunded Actuarial Liability	$1,298	$1,333	$1,365	$1,396	$1,427	$1,456	$1,638	$1,790	$1,863
(Funded Percentage)	(66.7)	(68.0)	(69.3)	(70.6)	(71.9)	(73.1)	(77.9)	(82.0)	(84.9)
6. Annual Normal Cost									
(a) Total	$174	$172	$181	$187	$193	$199	$236	$281	$339
(b) Employee Contributions	99	103	108	111	115	120	143	171	206
(c) Balance	75	69	74	75	77	79	92	110	134
(% Total Payroll)	(3.55)	(3.13)	(3.21)	(3.17)	(3.12)	(3.09)	(2.95)	(2.89)	(2.88)
7. State Contribution	$128	$137	$144	$149	$154	$159	$179	$214	$249
(% Total Payroll)	(6.11)	(6.21)	(6.31)	(6.26)	(6.21)	(6.16)	(5.71)	(5.62)	(5.37)

* Total payroll as advised by the Board for FY 1989 and FY 1990, increasing by 4.00% per annum thereafter.

** Normal Cost rate as certified by the Board based on the valuation for the second preceding fiscal year (includes Administrative Expenses).

*** State Contribution equals Normal Cost plus an amount to amortize the unfunded actuarial liability on a level percent of pay basis by June 30, 2028.

Table 3

STATE EMPLOYEES' RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL PRESENT VALUE OF
CREDITED PROJECTED BENEFITS AT JUNE 30, 1988

	Vested	Non-Vested	Total
1. Annuitants			
(a) Participants Currently Receiving Payments	$1,540,375,169	---	$1,540,375,169
(b) Deferred	$6,452,992	---	$6,452,992
2. Inactive Members			
(a) Employee Contributions	$45,814,181	---	$45,814,181
(b) Employer Financed	$14,605,254	---	$14,605,254
3. Active Members:			
(a) Pension Benefits	$996,498,394	$68,405,746	$1,064,904,140
(b) Cost-of-Living Adjustments	$198,287,339	$13,821,059	$212,108,398
(c) Death Benefits:			
(i) Occupational	8,465,122	2,171,442	10,636,564
(ii) Survivor & Widow	126,191,166	10,214,813	136,405,979
(iii) Non-Occupational	2,539,227	536,694	3,075,921
(iv) Refund	43,156,993	4,004,278	47,161,271
(v) Total	$180,352,508	$16,927,227	$197,279,735
(d) Disability:			
(i) Occupational	33,068,353	6,825,223	39,893,576
(ii) Non-Occupational	75,408,984	4,459,735	79,868,719
(iii) Total	$108,477,337	$11,284,958	$119,762,295
(e) Withdrawal	$235,176,581	$54,176,924	$289,353,505
(f) Total	$1,718,792,159	$164,615,914	$1,883,408,073
(g) Employee Contributions	$832,593,638	$114,483,492	$947,077,130
(h) Employer Financed	$886,198,521	$50,132,422	$936,330,943
4. TOTAL	$3,326,039,755	$164,615,914	$3,490,655,669

NOTES:

(1) Credited projected benefits were calculated in accordance with plan provisions in effect on June 30, 1988 based on the members' service as of such date and on the members' historical and projected pay.

(2) Projected years of service were considered in determining members' expected eligibility for particular benefits.

(3) Future automatic cost-of-living increases were recognized.

(4) The actuarial assumptions utilized were the same as those adopted for funding purposes.

Table 4

STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS

ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AT JUNE 30, 1988

	Vested	Non-Vested	Total
1. Annuitants			
(a) Participants Currently Receiving Payments	$1,540,375,169	---	$1,540,375,169
(b) Deferred	$6,452,992	---	$6,452,992
2. Inactive Members			
(a) Employee Contributions	$45,814,181	---	$45,814,181
(b) Employer Financed	$14,605,254	---	$14,605,254
3. Active Members:			
(a) Pension Benefits	$561,930,808	$27,507,109	$589,437,917
(b) Cost-of-Living Adjustments	$111,389,743	$5,520,830	$116,910,573
(c) Death Benefits:			
(i) Occupational	7,750,660	3,622,338	11,372,998
(ii) Survivor & Widow	96,748,350	18,650,483	115,398,833
(iii) Non-Occupational	2,384,343	599,506	2,983,849
(iv) Refund	40,841,181	3,975,213	44,816,394
(v) Total	$147,724,534	$26,847,540	$174,572,074
(d) Disability:			
(i) Occupational	29,686,225	11,425,404	41,111,629
(ii) Non-Occupational	58,016,930	1,804,037	59,820,967
(iii) Total	$87,703,155	$13,229,441	$100,932,596
(e) Withdrawal	$175,948,322	$41,980,828	$217,929,150
(f) Total	$1,084,696,562	$115,085,748	$1,199,782,310
(g) Employee Contributions	$832,593,638	$114,483,492	$947,077,130
(h) Employer Financed	$252,102,924	$602,256	$252,705,180
4. TOTAL	$2,691,944,158	$115,085,748	$2,807,029,906

NOTES:

(1) Accumulated benefits were calculated in accordance with plan provisions in effect on June 30, 1988, based on members'history of pay and service as of such date.

(2) Projected years of service were considered only in determining members' expected eligibility for particular benefits.

(3) Future automatic cost-of-living increases were recognized.

(4) The actuarial assumptions utilized were the same as those adopted for funding purposes.

STATE EMPLOYEES' RETIREMENT SYSTEM OF ILLINOIS

ANALYSIS OF FINANCIAL EXPERIENCE

Gains and losses in Actuarial Liability for Fiscal Year ending June 30, 1988.

Activity	Gain (Loss)
1. Actuarial Gains and Losses	
(a) Age & Service Retirements	$ (17,237,492)
(b) Incidence of Disability	(1,172,057)
(c) In-Service Mortality	(4,121,569)
(d) Retiree Mortality	3,971,693
(e) Disabled Mortality	(98,860)
(f) Termination of Employment	(13,237,063)
(g) Salary Increases	(11,318,379)
(h) Investment Income	(29,544,739)
(i) Other	(4,895,685)
(j) Total Actuarial Gain (Loss)	$ (77,654,151)
2. Contribution Income	$ (55,477,149)
3. Non Recurring Items	
(a) Plan amendment (HB2630/PA1472)	$ (831,756)
(b) Correction in calculation of Survivor Benefits	66,215,890
4. Total Financial Gain (Loss)	$ (67,747,166)

ACTUARIAL COST METHOD

An entry age normal cost method is used. Under this method, the projected pensions at retirement age are first determined and the values thereof at the individual member's entry age or hire age are determined. The values so determined are divided by the value at entry age of all future compensation payable to the member to determine the normal cost as a level percentage of covered pay. The normal cost for a particular year is that percentage of covered compensation for the year.

The actuarial liability at any point in time is the value of the projected pensions at that time less the value of future normal costs.

For ancillary benefits for active members, in particular disability benefits, death and survivor benefits, termination benefits and the post-retirement increments, the same procedure as outlined above is followed except that the entry age is the age at the later of hire date or June 30, 1980.

Estimated annual administrative expenses are added to the normal cost.

For valuation purposes assets are valued at book.

ACTUARIAL ASSUMPTIONS

Mortality: 1986 Projected Experience Table, a table based on experience underlying the 1971 Group Annuity Mortality Table, without margins, with a projection for mortality improvements to 1986. 5% of deaths amongst active employees are assumed to be in the performance of their duty.

Interest: 8% per annum, compounded annually.

Termination: Illustrative rates of withdrawal from the plan are as follows:

Age	Males	Females
20	.605	.397
25	.178	.164
30	.112	.116
35	.077	.092
40	.064	.076
45	.054	.061
50	.044	.048
55	.000	.000

It is assumed that terminated employees will not be rehired.

Salary Increases: 6-1/2% per annum, compounded annually.

Disability Rates: Incidence of disability amongst employees eligible for disability benefits:

Age	Males	Females
20	.0020	.0026
25	.0021	.0031
30	.0022	.0037
35	.0025	.0045
40	.0031	.0057
45	.0043	.0074
50	.0068	.0098
55	.0116	.0131
60	.0186*	.0177*

* Nil for "alternative formula" employees.

15% of disabilities amongst active employees are assumed to be in the performance of their duty.

Employees receiving a disability allowance are assumed to recover or die in accordance with the following tables:

Age	Rate of Recovery Male/Female	Rate of Mortality Male	Rate of Mortality Female
20	0.689	0.044	0.044
25	0.572	0.044	0.044
30	0.465	0.044	0.044
35	0.370	0.044	0.044
40	0.286	0.044	0.044
50	0.150	0.045	0.044
60	0.058	0.053	0.045
70	0.010	0.075	0.053
80	--	0.130	0.075
90	--	0.240	0.130

Retirement Rates: Retirement was assumed to occur at age 65 except for employees who retire under the "alternative formula", who were assumed to retire at age 60.

Assets: Assets available for benefits are used at book value.

Expenses: As estimated and advised by SERS staff, based on current expenses with an allowance for expected increases.

Marital Status: 85% of employees are assumed to be married.

Spouse's Age: The female spouse is assumed to be 3 years younger than the male spouse.

Remarriage Rates: The surviving spouses of deceased employees are assumed to remarry in accordance with the following table:

Age	Rate of Remarriage
20	0.144
25	0.094
30	0.059
35	0.040
40	0.028
45	0.018
50	0.010
55	0.004

Children:

It is assumed that married members have 2.2 children one year apart in age.

The age of the youngest child of a deceased employee at his date of death is assumed to be as follows:

Age At Death Of Employee	Age of Youngest Child
20	2
25	3
30	4
35	5
40	6
45	8
50	10
55	12
60	14

Social Security Benefits:

Social Security Disability and Survivor benefits payable in future years are assumed to bear the same relationship to future compensation levels at time of entitlement as current Social Security benefits bear to current compensation levels.

Overtime and Shift Differentials:

Reported earnings include base pay alone. It is assumed that overtime and shift differentials will increase total payroll by 3.5% over reported earnings.

SUMMARY OF RETIREMENT SYSTEM PLAN
(As of July 1, 1988)

1. PURPOSE

The State Employees' Retirement System of Illinois, a State Agency, provides an orderly means whereby aged or disabled employees may be retired from active service without prejudice or hardship and enables the employees to accumulate reserves for old age, disability, death and termination of employment.

2. ADMINISTRATION

Responsibility for the operation of the System and the direction of its policies is vested in a Board of Trustees of seven members. The administration of the detailed affairs of the System is the responsibility of the Executive Secretary who is appointed by the Board of Trustees. Administrative policies and procedures are designed to insure an accurate accounting of funds of the System and prompt payment of claims for benefits within the applicable statute.

3. EMPLOYEE MEMBERSHIP

All persons entering State service on or after January 1, 1984 become members upon completion of 6 months of continuous service. Persons entering State service prior to January 1, 1984 became members upon their first day of employment. Excluded from membership are: any employee whose position is subject to membership under another State supported system; any person who becomes an employee after June 30, 1979 as a public service employment program participant under the federal CETA program, or any enrollee of the Young Adult Conservation Corps. Prior to January 1, 1984, emergency and temporary employees were excluded from membership. Persons appointed by the Governor with the advice and consent of the Senate may elect to become members of the System.

4. MEMBERSHIP SERVICE

Membership service includes all service rendered while a member of the System for which credit is allowable. Persons entering service on or after January 1, 1984, or after July 1, 1982 in the case of emergency or temporary employees, may also receive membership service credit for periods of employment prior to membership by making contributions for such periods.

5. MEMBER CONTRIBUTIONS

Members are required to contribute a percentage of salary as their share of meeting the cost of the various benefits. Contribution rates are as shown below:

A. Members covered by Social Security - 4% of Salary.

B. Members without Social Security - 8% of Salary.

C. Members covered by Social Security who are either serving in a position in which service toward the Alternative Retirement Annuity may be earned or Security Employees of the Department of Corrections - 5-1/2% of Salary.

D. Members without Social Security who are either serving in a position in which service toward the Alternative Retirement Annuity may be earned or Security Employees of the Department of Corrections - 9-1/2% of Salary.

Members coordinated with Social Security also pay the current Social Security tax rate.

6. RETIREMENT PENSION

A. Qualification of Member:

Upon termination of State service, a member is eligible for a pension at age 60 with at least eight years of pension credit; at any age with 35 or more years of credit; between ages 55 and 60 with 30 to 35 years of credit with the pension reduced by one-half of 1% for each month the member is under age 60.

Members serving in a position in which service toward the alternative retirement annuity may be earned are eligible to receive the alternative retirement annuity at age 50 with at least 25 years pension credit or at age 55 with at least 20 years of pension credit in such a position. Security employees of the Department of Corrections were placed under the alternative formula effective August 16, 1985. The age and service requirements in accordance with the alternative formula are being phased in over a five year period for these employees.

B. Amount of Pension:

The pension is based on the member's final average compensation and the number of years of pension credit that has been established.

The pension formula reflects a graded or progressive method according to length of service as follows:

SUMMARY OF RETIREMENT SYSTEM PLAN
(As of July 1, 1988)

For Each Year Of Credit	General Employees		Department Of Corrections Security Employees**		Alternative Formula Employees	
	Covered*	Not Covered*	Covered*	Not Covered*	Covered*	Not Covered*
First 10	1.0%	1.67%	1.67%	1.90%	1.67%	2.25%
Second 10	1.1%	1.90%	1.90%	2.10%	1.90%	2.50%
Third 10	1.3%	2.10%	2.10%	2.25%	2.10%	2.75%
Over 30	1.5%	2.30%	2.30%	2.50%	2.30%	2.75%

* By Social Security.

** Who are not eligible for alternative formula.

The maximum pension payable is 75% of final average compensation.

C. Optional Forms of Payment:

Reversionary Annuity - A member may elect to receive a smaller pension during his lifetime in order to provide a spouse or a designated dependent with a lifetime income. That payment would be in addition to any other benefit payable by the System.

Level Income - A member who contributes to Social Security as a State employee may elect to have his pension payments increased before age 65 throughout his retired life. To be eligible for this election the member must have established eligibility for a Social Security pension.

D. Annual Increases in Pension:

Post retirement increases of 3% of the original pension are granted to members effective each January 1.

7. SURVIVORS ANNUITY

A. Qualification of Survivor:

If death occurs while in State employment, the member must have established at least 18 months of pension credit. If death occurs after termination of State service and the member was not receiving a retirement pension, the member must have established at least eight years of pension credit.

An eligible spouse qualifies at age 50 or at any age if there is in the care of the spouse any unmarried children of the member under age 18; unmarried children under age 18 qualify if no spouse survives; dependent parents at age 50 qualify if neither an eligible spouse nor children survive the member.

B. Amount of Payment:

If the member's death occurs before retirement, the named beneficiary receives a lump sum refund of all of the pension contributions made by the member, excluding contributions for widows and survivors benefits. A single lump sum payment of $1,000 is also made immediately to the survivor beneficiary of the member.

An eligible spouse receives a monthly annuity equal to 30% of the member's final average compensation subject to a maximum of $400. If children of the member are under the care of the spouse, the annuity is increased for each child, subject to a maximum of $600 or 80% of final average salary. If only eligible children survive, the monthly annuity may not exceed the lesser of $600 or 80% of final average compensation. The maximum combined monthly payment to parents may not exceed $400. If the member's death occurs after retirement or after termination of State employment but before the member receives a pension, the monthly benefit is further limited to 80% of the pension received or earned by the member. Monthly benefits payable to survivors of a member who was covered by Social Security as a State employee are reduced by one-half of the amount of benefits they are entitled to from Social Security. If death of the member occurs on or after January 1, 1984 the minimum total survivors annuity benefit payable is equal to 50% of the member's earned pension without regard to the member's age at death.

C. Duration of Payment:

The monthly annuity payable to a spouse terminates upon death or remarriage prior to attainment of age 55; to children upon death, marriage or attainment of age 18, except for a child who at age 18 is physically or mentally disabled and unable to accept gainful employment.

8. <u>WIDOW'S ANNUITY OPTION</u>

The widow of a male member who was a participant in the System prior to July 19, 1961, may have the option of taking a Widow's Annuity rather than the Survivor's Annuity.

A. Qualification of Widow:

An eligible widow receives a Widow's Annuity if she is age 50 or over or has in her care any of the member's unmarried children under age 18. If she is not age 50 and has no such children in her care, she becomes eligible at age 50.

B. Amount of Payment:

The Widow's Annuity consists of a lump sum payment of $500, plus a monthly annuity equal to 50% of the pension earned or received by the member at the date of death. If the widow has in her care eligible children of the member, the monthly annuity is increased because of each child, subject to a maximum payment equal to 66-2/3% of the earned pension. Monthly benefits payable to a widow of a member who was covered by Social Security as a State employee are reduced by one-half of the amount of benefits she is entitled to from Social Security.

C. Duration of Payment:

The monthly payment to the widow continues for her lifetime whether or not she remarries. If the amount of benefit was increased because of eligible children, it is adjusted downward as these children's benefits are terminated (death, marriage or attainment of age 18).

9. OCCUPATIONAL DEATH BENEFIT

A. Qualification of Survivors:

If a member's death results from an injury on the job or a job related cause, the spouse may be eligible for an Occupational Death benefit. If only unmarried children under age 18 survive, they would be eligible for the benefit. If neither a spouse nor eligible children survive, a dependent father or mother would be eligible.

B. Amount and Duration of Payment:

The nominated beneficiary receives a lump sum payment consisting of all contributions made by the member plus interest credited to his account.

A surviving spouse is entitled to a monthly benefit equal to 50% of the member's final average compensation. The benefit is payable until remarriage of the spouse unless the remarriage occurs after attainment of age 55. If children under age 18 also survive, the annuity is increased by 15% of such average because of each child subject to a maximum of 75%. If there is no spouse, or if the spouse remarries prior to attainment of age 55 or dies before all children have attained age 18, each child receives a monthly allowance of 15% of final average compensation.

The combined payment to children may not exceed 50% of the member's final average compensation. Payments to or on account of children terminate upon their death, marriage or attainment of age 18.

If there is no spouse or eligible children, a benefit of 25% of final average compensation is payable to each surviving dependent parent for life.

The monthly benefit is reduced by any payments awarded under the Workmen's Compensation or Occupational Diseases Acts.

10. OTHER DEATH BENEFITS

If the beneficiaries of the member do not qualify for any of the previously described death benefits, one of the following benefits is payable:

A. Before Retirement:

If the member's death occurred while in State service the benefit consists of: (1) a refund of all contributions plus interest credited to the member's account; and (2) a payment equal to one month's salary for each full year of pension credit not to exceed six month's salary. The minimum payment is equal to one month's salary.

If the member had terminated State service but not yet qualified for a pension, the benefit consists of a refund of all of the member's contributions to the System plus the interest credited to the member's account.

B. After Retirement:

The benefit consists of a lump sum payment equal to the excess of contributions plus interest credited to the member's account over the total amount of pension payments made to the member. The minimum payment is $500.00

11. NON-OCCUPATIONAL DISABILITY BENEFITS

A. Qualification and Amount of Payment:

Available to any member under age 70 who has established at least one and one-half years of creditable service and who has been granted a disability leave of absence by his employing agency. The benefit is 50% of final average compensation plus a credit to the member's account of service and contributions. It begins on the 31st day of absence from service on account of disability.

If the member has Social Security coverage as a State employee, the benefit payable by the System is reduced by the amount of any disability payment to which he is entitled under Social Security.

B. Duration of Payment:

The member is eligible for the monthly benefit until the occurrence of any of the following events: (1) disability ceases; (2) resumption of gainful employment; (3) payments are made for a period of time equal to one-half of the service credit established as of the date disability began; (4) attainment of age 65 or payment for five years if later; or (5) attainment of age 70.

12. OCCUPATIONAL DISABILITY BENEFIT

A. Qualification and Amount of Payment:

Provided for any member under age 70 who becomes disabled as the direct result of injury or diseases arising out of and in the course of State employment.

The benefit is 75% of final average compensation plus a credit to the member's account of service and contributions. The cash benefit is reduced by any payment received under the Workmen's Compensation or Occupational Diseases Acts.

B. Duration of Payment:

Monthly benefits are payable until the occurrence of any of the following events: (1) disability ceases; (2) resumption of gainful employment; (3) attainment of age 65 or payment for five years if later; or (4) attainment of age 70.

If termination of the benefit is due to the member having attained age 65 or having received benefits for five years or to age 70, the member is entitled to a retirement pension based upon service credit established as of that date.

C. Temporary Disability Benefit

A member who is initially denied Workers' Compensation benefits and is appealing the denial may receive payment at the nonoccupational rate, 50% of pay, providing all eligibility requirements for the nonoccupational benefit are met, until the determination is made.

13. SEPARATION BENEFITS

Upon termination of State employment a member may obtain a refund of the contributions made to the System. By accepting a refund, a member forfeits all accrued rights and benefits in the System for himself and his beneficiaries.