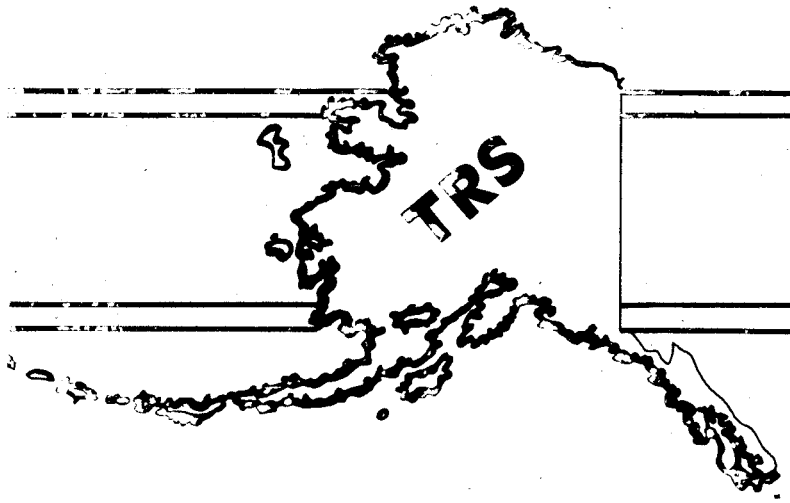

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT
AS OF JUNE 30, 1985

Prepared by
William M. Mercer-Meidinger, Incorporated
3200 One Union Square
Seattle, Washington 98101

WILLIAM M.
MERCER-Meidinger
INCORPORATED

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HIGHLIGHTS

This report has been prepared by William M. Mercer-Meidinger, Incorporated to:

(1) present the results of a valuation of the Alaska Teachers' Retirement System as of June 30, 1985;

(2) review experience under the plan for the year ended June 30, 1985;

(3) determine the contribution rates for the State for each school district in the system;

(4) provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into two sections. Section 1 describes the basis of the valuation. It summarizes the plan provisions, provides information relating to the plan participants, and describes the funding methods and actuarial assumptions used in determining liabilities and costs.

Section 2 contains the results of the valuation. It includes the experience of the plan during the 1984-85 plan year, the current annual costs, and reporting and disclosure information.

The principle results are as follows:

	1984	1985
Funding Status as of June 30:		
(a) Valuation Assets*	$ 674,382	$ 833,617
(b) Present Value of Accrued Benefits*	804,018	1,042,551
(c) Accrued Benefit Funding Ratio (a) / (b)	83.9%	80.0% (87.6)
Contributions for Fiscal Year	1987	1988
(a) Normal Cost	13.91%	11.62%
(b) Past Service Rate	3.45%	5.06%
(c) Total Contribution Rate	17.36%	16.68%

* In thousands.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data provided to us by the plan sponsor and financial information provided by the audited report from Peat, Marwick, Mitchell and Company, to determine a sound value for the plan liabilities. We believe that this value and the method suggested for funding it are in full compliance with the Employee Retirement Income Security Act of 1974, the Internal Revenue Code, and all applicable regulations.

Respectfully submitted,

Robert F. Richardson

Robert F. Richardson, ASA
Principal

RFR/js

March 17, 1986

ANALYSIS OF THE VALUATION

Actuarial Method and Assumptions

This actuarial report is the first to utilize the projected unit credit actuarial method. The actuarial assumptions remain unchanged since those adopted in March 1982. The Alaska statutes require that an experience analysis of the Systems' actuarial assumptions be performed at least every six years. Although changes have occurred since the last experience study, we still believe that the current actuarial assumptions are appropriate to determine liabilities and costs under the Teachers' Retirement System.

This change in funding method was made to conform to the accounting procedures which were adopted by the Governmental Accounting Standards Board (GASB) in December 1985. Under the prior actuarial funding method, the funding ratio would have been 87.6% while the total employer contribution rate would have been 17.14%.

Investment Performance

During the 1985 fiscal year, the investment return rate, based upon market values, was 21.44% . . . clearly the highest return rate since the inception of TRS. Based upon the three-year smoothing approach used to determine valuation assets, the return rate during fiscal year 1985 was 14.44%.

Health Inflation

For the first time since retiree health coverage became a benefit in TRS, there has been a decrease in the monthly premium. As reported in last year's actuarial report, we had projected the FY86 premium to decrease to $165 per month. The actual premium for the year decreased to only $168.25. Consequently, there was a very small actuarial loss from this assumption.

Salary Increases

The third most important factor affecting costs and liabilities under TRS is the impact of inflation on salary increases. For the second straight year, salary increases on an average were less than the actuarial assumption. As of June 30, 1985, the average annual salary was $41,238 . . . an increase of only 4.6% over the prior year.

Accordingly, there were actuarial gains from less-than-anticipated salary increases which contributed, along with the excellent investment performance, to the decrease in contribution rates.

Membership Statistics

During the 8 1/2 year period from January 1, 1977 to June 30, 1985, there has been a steady trend upward in the average age, with average annual increases of .33 years. The age of the average teacher is now 40.04. This phenomenon continues to put upward pressure on costs and liabilities . . . thus dampening the beneficial affects of actuarial gains from investment and salary increases. Average credited service has held steady at just over 9.5 years.

Retiree Statistics

There was a large increase in the number of new retirees during FY85, with 289 new benefit recipients added to the pension rolls. Average age at retirement increased slightly for the second year in a row. The average monthly retirement check for new retirees now exceeds $2,000.

Conclusions

Primarily due to the excellent investment performance during FY85, the total contribution rate decreased. Cost containment measures in the retiree health program, as well as a general slowing of medical inflation, both contributed to a smaller actuarial loss from health inflation than we have witnessed in several years. The change in actuarial funding methods led to a decrease in both the funding ratio and the employer contribution rate.

Section 1
BASIS OF THE VALUATION

In this section, the basis of the valuation is presented and described. This information--the provisions of the plan and the census of participants--is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

A summary of plan provisions is provided in Section 1.1 and participant census information is shown in Section 1.2.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund, the number of participants who will retire, die, terminate their services, their ages at such termination and their expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which have been adopted to guide the sponsor in funding the plan in a reasonable and acceptable manner, are described in Section 1.3.

Section 1.1
SUMMARY OF THE ALASKA TEACHERS' RETIREMENT SYSTEM

(1) Plan

The Teachers' Retirement System of Alaska is a joint contributory retirement system to provide benefits for teachers of the State.

(2) Effective Date

June 30, 1955, as amended through June 30, 1985.

(3) Administration of Plan

The Commissioner of Administration appoints the administrator of the System; the Alaska Teachers' Retirement Board makes recommendations to the Commissioner of Administration; and the Commissioner of Revenue invests the funds.

(4) Membership

Membership in the Alaska Teachers' Retirement System is compulsory for each certificated elementary or secondary teacher, certificated school nurse, and other certificated personnel who are employed on a full-time or part-time basis in a position which requires a teaching certificate as a condition of employment in the public schools of Alaska, the Commissioner of Education, supervisors within the Department of Education, and all full-time or part-time teachers of the University of Alaska and administrative personnel occupying a full-time position at the University of Alaska which requires academic standing and is approved by the Administrator. Certain State legislators may also elect to be eligible for membership.

(5) Credited Service

A year of membership service is defined to be the same as a school term which is currently a minimum of 172 days, and fractional service credit is on a daily rate basis. Credit is granted for all Alaskan public school service. Credit is granted for accrued, unused sick leave as reflected by the records of the last employer once a member has been on retirement an equal amount of time, meets eligibility requirements and has completed an application for the credit.

(6) Contributions by Teachers

Effective July 1, 1970, each teacher shall contribute 7% of base salary earned from July 1 to the following June 30.

(7) Voluntary Supplemental Contributions

If a teacher who first joined the system before July 1, 1982 wishes to make his or her spouse or minor children eligible for a spouse's pension and/or survivor's pension allowance, the teacher may elect to make supplemental contributions of an additional 1% of base salary commencing not later than 90 days after marriage, or the birth or adoption of a child, or upon re-entry into the system provided there was at least a twelve (12) month break in service.

(8) Arrearage Contributions

Up to ten years of public or non-public teaching service, or service by a certificated person in a position requiring certification, in an accredited school not covered under the Teachers' Retirement System, or service in an institution of higher learning not under the control of the Board of Regents of the University of Alaska, may be credited for retirement purposes. For teachers first hired after July 1, 1978, the full actuarial cost of providing benefits for the service will be borne by the teacher. No fractional credit is granted for outside service.

Service as a teacher, a certificated person employed in a full-time position requiring a teaching certificate, or a professional educator, in Alaska B.I.A. schools may be credited for retirement purposes. Contributions are required for service which is claimed. There is no limit on the amount of Alaska B.I.A. service that may be claimed. Fractional credit is granted for Alaska B.I.A. service and military service.

A maximum of five years of military service may be credited for retirement purposes; however, the maximum outside and military service credit may not exceed ten years, unless entry into the military is immediately preceded by TRS service and following discharge is continued by TRS service within one year. Contributions are required for service which is claimed. Fractional credit is granted for military service.

(9) Retroactive Contributions

If a teacher was not subject to the provisions of the Retirement Act and, at a later date became subject to them due to legislative changes of the eligibility requirements, the teacher may elect to receive credit for creditable service prior to membership by submitting to the Retirement Fund an amount equal to the contributions that would have been made if the teacher had been a member of the System for any year's service after June 30, 1955, plus interest thereon. Retroactive contributions are not required for creditable membership service before July 1, 1955.

(10) Employers' and State's Contributions

The employer and the State each contribute an amount equal to one-half of the amount required in addition to member contributions to finance the benefits of the System.

(11) Rate of Interest

The amount deposited in a member account will be credited with interest at the rate established for a school year at the end of such school year. Effective June 30, 1974, the interest rate was increased to 4-1/2%.

(12) Withdrawal of Mandatory Contributions

If a member terminates teaching services in Alaska, mandatory contributions may be withdrawn. Upon request, a terminated teacher will receive a refund of the balance of the member contribution account.

(13) Reinstatement of Contributions

If Mandatory Contributions are withdrawn and a member subsequently resumes teaching in Alaska, the member will be indebted to the Teachers' Retirement Fund in the amount of the total refund. The reinstatement indebtedness bears compound interest at the rate prescribed by regulation to the date of repayment or the date of retirement, whichever occurs first.

(14) Normal Retirement Eligibility

Meeting the requirement of either (a) or (b) below:

(a) Upon attaining age 55 and meeting one of the following service requirements:
   (1) Eight years of fully-paid membership service, or
   (2) 15 years of fully-paid creditable service, the last five of which have been membership service; (after July 1, 1975 a new member needs eight years of fully-paid membership service); or
   (3) Five years of fully-paid membership service and three years of fully-paid Alaska B.I.A. service;

or;

(b) At any age after meeting one of the following service requirements:
   (1) 25 years of fully-paid creditable service, the last five of which are membership service; or
   (2) 20 years of fully-paid membership service; or
   (3) 20 years of fully-paid combined membership service and Alaska B.I.A. service, the last five of which are membership service.

A retired teacher who has been receiving a disability retirement benefit shall be eligible for a service retirement benefit upon or after satisfying normal retirement eligibility.

(15) Early Retirement Eligibility

Upon attaining age 50 and meeting one of the following service requirements:

(1) Eight years of fully-paid membership service, or
(2) 15 years of fully-paid creditable service, the last five of which have been membership service; (after July 1, 1975 a new member needs eight years of fully-paid membership service); or
(3) Five years of fully-paid membership service and three years of fully-paid Alaska B.I.A. service.

(16) Computation of Average Base Salary

A teacher's average base salary is determined by averaging the teacher's highest base salary which the teacher received for any three years of membership service.

(17) Normal Retirement Benefit

The normal retirement benefit is 2% of the teacher's Average Base Salary multiplied by the total number of years of creditable service.

(18) Early Retirement Benefit

A teacher who meets the service requirements for normal retirement, but not the age requirements, may elect to have reduced payments commence as early as age 50. The reduced Early Retirement Benefit is equal to the actuarial equivalent of the normal retirement benefit.

(19) Indebtedness Owing At Retirement

If on the date of making application for retirement, a teacher has not paid the full amount of his indebtedness including interest to the Retirement Fund, the retirement benefit will be reduced for life by an amount equal to the actuarial equivalent of the outstanding indebtedness at the time of retirement.

(20) Re-employment of a Retired Teacher

If a retired teacher is reemployed in a position covered under the System, the retirement benefit will be suspended during the period of reemployment.

During such period of reemployment, retirement contributions are mandatory.

(21) Disability Retirement Benefits

A disability retirement benefit may be paid if a teacher has become permanently disabled before 55 and has at least five years of membership service.

The benefit will be equal to 50% of the disabled teacher's base salary immediately prior to becoming disabled. This benefit will be increased by 10% of the teacher's base salary for each minor child up to a maximum of 40%.

When the disabled teacher attains age 55, the disability benefit will automatically terminate. A normal retirement benefit will be computed as if the teacher had been in membership service during the period of disability, and a service retirement will be granted.

(22) Cost-of-Living Allowance

An eligible retired teacher who remains in Alaska is entitled to receive an additional cost-of-living allowance equal to 10% of the base retirement benefit.

(23) Post-Retirement Pension Adjustment

When the administrator determines that the cost of living has increased and that the financial condition of the retirement fund permits, all retirement benefits may be increased. The amount of the increase shall be not more than 4% compounded for each year of retirement, reduced by prior Post-Retirement Pension Adjustments.

(24) Lump Sum Death Benefit

Upon a nonoccupational death of a member who has made no supplemental contributions or who made supplemental contributions for less than one year and has completed less than one year of membership service, a lump-sum benefit shall be paid to the designated beneficiary. The lump-sum benefit is the teacher's accumulated member contribution account. If the teacher is in active service at the time of death after completing at least one year of membership service but before becoming a vested member, an additional death benefit equal to $1,000 plus $100 for each year of membership service (the total not to exceed $3,000), plus $500 if the teacher is survived by one or more minor children is also payable.

If the teacher had received a retirement benefit prior to his death, payment shall be his accumulated contributions, plus interest, minus all benefits paid.

(25) Survivor's Allowance

If a teacher dies while in service or while receiving a service or disability retirement benefit, is survived by one or more minor children and has made supplemental contributions for at least one year before his death, his surviving spouse is entitled to the survivor's allowance. The amount of the benefit is 35% of the teacher's base salary immediately prior to his death or becoming disabled for his spouse and 10% for each minor child up to a maximum of 40%.

(26) Spouse's Pension

If a teacher has made supplemental contributions for at least one year and dies while in membership service, or while receiving a disability benefit, or if a teacher has made supplemental contributions for at least five years and dies while on retirement or in deferred retirement status, the surviving spouse is entitled to receive the Spouse's Pension. The amount of the benefit is 50% of the service retirement benefit that the deceased teacher was receiving or would have received. The Spouse's Pension commences the month following the member's death. The payment ceases when the spouse dies.

Section 1.2(a)
MISCELLANEOUS INFORMATION AS OF JUNE 30

		1981	1982	1983	1984	1985
				Active Members		
(1)	Number	7,178	7,563	7,899	8,259	8,684
(2)	Average Age	38.77	39.19	39.47	39.76	40.04
(3)	Average Credited Service	9.56	9.55	9.51	9.53	9.54
(4)	Average Annual Salary	$32,326	$35,903	$37,323	$39,416	$41,238
				Retirees and Beneficiaries		
(1)	Number	1,380	1,485	1,712	1,764	2,022
(2)	Average Age	63.05	63.28	62.60	63.17	62.75
(3)	Average Monthly Benefit Base	$ 911	$ 948	$ 1,041	$ 1,060	$ 1,176
	C.O.L.A.	$ 55	$ 59	$ 68	$ 68	$ 79
	P.R.P.A.	$ 162	$ 187	$ 197	$ 188*	$ 279
	Total	$ 1,128	$ 1,194	$ 1,306	$ 1,316	$ 1,534
				Vested Terminations		
(1)	Number	286	343	430	509	335
(2)	Average Age	45.80	45.51	47.50	46.75	45.49
(3)	Average Monthly Benefit	$ 675	$ 736	$ 908	$ 944	$ 850
				Not Vested Terminations With Account Balances		
(1)	Number	1,051	987	1,037	914	1,093
(2)	Average Account Balance	$ 4,350	$ 5,230	$ 5,360	$ 5,573	$ 6,649

* Note: Since no PRPA was granted on July 1, 1983, the average PRPA on June 30, 1984 shows a decrease. The July 1, 1984 PRPA is reflected in the June 30, 1985 average. The July 1, 1985 PRPA will be reflected in the next report.

STATE OF ALASKA - TRS ACTIVES

VALUATION DATE 6/30/1985

------ ANNUAL EARNINGS BY AGE------

AGE GROUP	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS
0-19	2	63115.	31558.
20-24	96	2632711.	27424.
25-29	748	23942756.	32009.
30-34	1599	58148592.	36366.
35-39	2186	88899320.	40668.
40-44	1893	83400512.	44057.
45-49	1152	52289580.	45390.
50-54	624	29801388.	47759.
55-59	260	12595678.	48445.
60-64	101	5148493.	50975.
65-69	19	970686.	51089.
70-74	3	170974.	56991.
75-79	1	46300.	46300.
80+	0	0.	0.
TOTAL	8684	358110080.	41238.

---- ANNUAL EARNINGS BY SERVICE----

SERVICE GROUP	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS
0	182	5580304.	30661.
1	807	27277740.	33801.
2	721	25789880.	35770.
3	699	26268486.	37580.
4	716	27379786.	38240.
0- 4	3125	112296496.	35935.
5- 9	2511	104171616.	41486.
10-14	1562	70310096.	45013.
15-19	1142	54310308.	47557.
20-24	289	14197495.	49126.
25-29	47	2401685.	51100.
30-34	8	422552.	52819.
35-39	0	0.	0.
40+	0	0.	0.
TOTAL	8684	358110272.	41238.

SERVICE GROUPS BY AGE GROUPS

	SERVICE GROUP									
AGE	0- 4	5- 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
0-19	2	0	0	0	0	0	0	0	0	2
20-24	96	0	0	0	0	0	0	0	0	96
25-29	633	115	0	0	0	0	0	0	0	748
30-34	838	661	100	0	0	0	0	0	0	1599
35-39	745	783	523	135	0	0	0	0	0	2186
40-44	418	484	473	463	55	0	0	0	0	1893
45-49	203	248	258	323	112	8	0	0	0	1152
50-54	115	138	132	147	77	15	0	0	0	624
55-59	49	52	46	55	34	19	5	0	0	260
60-64	22	25	24	16	7	5	2	0	0	101
65-69	4	3	5	3	4	0	0	0	0	19
70-74	0	2	1	0	0	0	0	0	0	3
75-79	0	0	0	0	0	0	1	0	0	1
80+	0	0	0	0	0	0	0	0	0	0
TOTAL	3125	2511	1562	1142	289	47	8	0	0	8684

Section 1.2(c)
STATISTICS ON NEW RETIREES DURING THE YEAR ENDING JUNE 30

	1981	1982	1983	1984	1985
Service					
Number	129	109	242	179	279
Average Age At Retirement	55.70	55.24	54.54	54.66	54.95
Average Benefit	$ 1,320	$ 1,425	$ 1,680	$ 1,770	$ 2,011
Disability					
Number	8	10	7	5	6
Average Age At Retirement	42.56	44.47	45.03	52.60	48.57
Average Benefit	$ 1,766	$ 2,075	$ 2,333	$ 2,749	$ 2,500
Survivor					
Number	16	5	3	8	4
Average Age At Retirement	53.39	67.39	43.36	53.65	46.78
Average Benefit	$ 956	$ 700	$ 1,727	$ 1,330	$ 2,452
Total					
Number	153	124	252	192	289
Average Age At Retirement	55.62	55.70	54.14	54.53	54.70
Average Benefit	$ 1,305	$ 1,448	$ 1,699	$ 1,777	$ 2,027

Section 1.2(d)
STATISTICS ON ALL RETIREES AS OF JUNE 30

	1982	1983	1984	1985
Normal Retirement				
Number, Prior Year	1,262	1,361	1,579	1,627
Net Change During Year	99	218	48	228
Number, This Year	1,361	1,579	1,627	1,855
Average Age At Retirement	57.59	57.01	56.96	56.57
Average Age Now	64.19	63.44	64.13	63.49
Average Monthly Benefit	$1,192.75	$1,305.08	$1,316.92	$1,537.09
Surviving Spouse's Benefits				
Number, Prior Year	34	36	42	40
Net Change During Year	2	6	(2)	24
Number, This Year	36	42	40	64
Average Age At Retirement	59.74	59.13	57.87	57.29
Average Age Now	66.11	66.22	64.87	66.20
Average Monthly Benefit	$ 566.17	$ 812.92	$ 592.92	$ 952.64
Survivor's Benefits				
Number, Prior Year	31	31	35	37
Net Change During Year	0	4	2	1
Number, This Year	31	35	37	38
Average Age At Retirement	41.27	37.83	35.47	36.23
Average Age Now	46.86	43.09	41.09	41.84
Average Monthly Benefit	$1,184.33	$1,264.17	$1,247.17	$1,501.30
Disabilities				
Number, Prior Year	53	57	56	60
Net Change During Year	4	(1)	4	5
Number, This Year	57	56	60	65
Average Age At Retirement	44.13	43.32	44.11	44.46
Average Age Now	48.63	48.36	49.64	50.30
Average Monthly Benefit	$1,625.83	$1,738.50	$1,816.75	$2,025.77

STATE OF ALASKA - TRS BENEFIT RECIPIENTS

VALUATION DATE 6/30/1985

------ANNUAL BENEFIT BY AGE------				-----ANNUAL BENEFIT BY YEARS-----			
AGE GROUP	NUMBER OF PEOPLE	TOTAL ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT	YEARS RECEIVING BENEFIT	NUMBER OF PEOPLE	TOTAL ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT
0-19	3	14038.	4679.	0	289	7030474.	24327.
20-24	3	13866.	4622.	1	191	4237603.	22186.
25-29	0	0.	0.	2	128	2548589.	19911.
30-34	0	0.	0.	3	124	2391651.	19288.
35-39	9	199796.	22200.	4	145	2677059.	18462.
40-44	33	711934.	21574.	0- 4	877	18885376.	21534.
45-49	124	2821070.	22751.	5- 9	699	11698491.	16736.
50-54	265	5821403.	21968.	10-14	304	4372403.	14383.
55-59	399	7871862.	19729.	15-19	105	1554019.	14800.
60-64	375	6697990.	17861.	20-24	30	552444.	18415.
65-69	336	5729409.	17052.	25-29	4	87459.	21865.
70-74	234	3617682.	15460.	30-34	3	62228.	20743.
75-79	155	2329564.	15029.	35-39	0	0.	0.
80+	86	1383806.	16091.	40+	0	0.	0.
TOTAL	2022	37212420.	18404.	TOTAL	2022	37212424.	18404.

NUMBER OF YEARS RECEIVING BENEFITS

AGE	0- 4	5- 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
0-19	3	0	0	0	0	0	0	0	0	3
20-24	2	0	1	0	0	0	0	0	0	3
25-29	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0
35-39	6	2	1	0	0	0	0	0	0	9
40-44	21	10	2	0	0	0	0	0	0	33
45-49	113	8	3	0	0	0	0	0	0	124
50-54	225	37	2	1	0	0	0	0	0	265
55-59	238	150	8	2	1	0	0	0	0	399
60-64	161	193	20	1	0	0	0	0	0	375
65-69	82	199	53	2	0	0	0	0	0	336
70-74	18	92	112	12	0	0	0	0	0	234
75-79	8	7	86	41	13	0	0	0	0	155
80+	0	1	16	46	16	4	3	0	0	86
TOTAL	877	699	304	105	30	4	3	0	0	2022

Section 1.3
ACTUARIAL BASIS

Valuation of Liabilities

A. Actuarial Method - Projected Unit Credit. The unfunded accrued benefit liability is amortized over 25 years.

B. Method For Accumulated Plan Benefit Values

The actuarial present value of accumulated plan benefits (the term used for Financial Accounting Standards Board purposes) and present value of accrued benefits are a measure of plan benefits which have been earned to date. These are not only a valuation of retirement benefits, but also of deferred vested, death benefits, and other ancillary benefits. Earnings and service for benefit purposes which are expected to be earned after the valuation date are excluded from these values.

The actuarial assumptions used to determine these values are identical to those used for the funding purposes.

In estimating accumulated benefits, final average compensation is based on compensation data in the possession of the actuary.

C. Actuarial Basis

1. Interest	8% per year, compounded annually, net of investment expenses.
2. Salary Scale	8% per year for the first five years of employment and 7% per year thereafter.
3. Health Inflation	8% per year.
4. Mortality	1971 Group Annuity Mortality Table.
5. Turnover	Based upon the 1980-81 actual total turnover experience. (See Table 1).
6. Disability	Incidence rates in accordance with Table 2. Post-disability mortality in accordance with rates published by the Pension Benefit Guaranty Corporation to reflect mortality of those receiving disability benefits under Social Security.

7.	Retirement Age	The average of age 60 and the earliest age for which unreduced retirement benefits will be available.
8.	Spouse's Age	Wives are assumed to be four years younger than husbands.
9.	Contribution Refunds	100% of those terminating after age 35 with eight or more years of service will leave their contributions in the System and thereby retain their deferred vested benefit. All others who terminate are assumed to have their contributions refunded.
10.	C.O.L.A.	49% of those receiving retirement benefits will be eligible for C.O.L.A.
11.	Sick Leave	4.7 days of unused sick leave for each year of service will be available to be credited once the member is retired.
12.	Expenses	No loading for expenses.

Valuation of Assets

Based upon the three-year average ratio between market and book values of the System's assets. Assets are accounted for on an accrual basis.

Valuation of Medical Benefits

Medical benefits for retirees are provided by the payment of premiums from the trust fund. A pre-65 cost and lower post-65 cost (due to Medicare) were assumed such that the total rate for all retirees equals the present premium rate. These medical premiums are then increased with the health inflation assumption. The same method used for funding retirement benefits is also used to fund health benefits.

TABLE 1
EMPLOYEE TURNOVER ASSUMPTIONS

Select Rates of Turnover During the First 3 Years of Employment

Year of Employment	Males
1	.12
2	.26
3	.32

Year of Employment	Females
1	.09
2	.11
3	.16

After 3 Years of Employment

Attained Age	Rate
20	.1500
21	.1500
22	.1500
23	.1500
24	.1500
25	.1500
26	.1500
27	.1500
28	.1500
29	.1500
30	.1400
31	.1300
32	.1200
33	.1100
34	.1000
35	.0900
36	.0800
37	.0800
38	.0700
39	.0700
40	.0650
41	.0650
42	.0650
43	.0600
44	.0600
45	.0600
46	.0600
47	.0550
48	.0550
49	.0550
50	.0500
51	.0500
52	.0500
53	.0500
54	.0500
55 and Up	.0000

TABLE 2

DISABILITY RATES
ANNUAL RATES FOR 1,000 EMPLOYEES

Age	Rate
20	.70
21	.71
22	.72
23	.73
24	.74
25	.75
26	.76
27	.78
28	.80
29	.82
30	.84
31	.86
32	.88
33	.90
34	.93
35	.96
36	.99
37	1.03
38	1.07
39	1.11
40	1.15
41	1.20
42	1.27
43	1.36
44	1.48
45	1.62
46	1.76
47	1.91
48	2.07
49	2.23
50	2.40
51	2.60
52	2.86
53	3.18
54	3.56
55	4.00
56	4.59
57	5.34
58	6.10
59	7.20
60	8.43
61	9.75
62	11.30
63	13.05
64	14.90

Section 2
VALUATION RESULTS

This section sets forth the results of the actuarial valuation.

Section 2.1(a) shows the distribution of the assets as of June 30, 1985.

Section 2.1(b) shows the transactions of the plan's fund during the FY85.

Section 2.1(c) develops the valuation assets.

Section 2.2 shows the actuarial present values as of June 30, 1985.

Section 2.3 calculates the total contribution rate for FY88.

Section 2.1(a)
ASSETS AS OF JUNE 30, 1985 (in thousands)

	Cost Value	Market Value
Cash	$ 28,958	$ 28,958
CD's and Other Short-Term Issues	8,000	8,000
Investment Securities:		
U.S. Government	334,754	342,802
Other	37,928	39,368
Common Stock	106,163	120,621
Foreign Investments	36,261	40,146
Real Estate Equity Fund	56,689	61,574
Loans & Mortgages	201,797	201,797
Financial Futures	1	1
Miscellaneous	23,066	23,066
Total Assets	$833,617	$866,333

Section 2.1(b)
CHANGES IN NET ASSETS DURING FISCAL YEAR 1985 (in thousands)

Net Assets, June 30, 1984		$659,572
Additions:		
Dividend Income	$ 4,851	
Employee Contributions	29,176	
Employer and State Matching Contributions	68,826	
Interest Income	69,320	
Unrealized Gain (Loss) on Investments	78,418	250,591
Deductions:		
Medical Benefits	$ 4,393	
Retirement Benefits	33,360	
Refunds of Contributions	3,126	
Administrative Expenses	2,951	43,830
Net Assets, June 30, 1985		$866,333

Approximate Investment Return Rate During the Year:	
Based on Market Values	21.44%
Based on Book Values	9.43%
Based on Valuation Assets	14.44%

Section 2.1(c)
DEVELOPMENT OF VALUATION ASSETS AS OF JUNE 30, 1985 (in thousands)

		Market Value	Cost Value	Ratio (M/C)
(1)	June 30, 1985	$866,333	$833,617	1.0392
(2)	June 30, 1984	$659,572	$705,273	.9352
(3)	June 30, 1983	591,382	588,915	1.0042
(4)	Average Ratio			.9929
(5)	Cost Value at June 30, 1985			$833,617
(6)	Valuation Assets at June 30, 1985 (4) x (5) but not outside the range of book and market values			$833,617

Section 2.2
ACTUARIAL PRESENT VALUES AS OF JUNE 30, 1985 (in thousands)

	Normal Cost	Present Value of Accrued Benefits
Active Members		
Retirement Benefits	$ 31,981	$ 370,641
Termination Benefits	13,311	141,254
Disability Benefits	1,342	11,972
Death Benefits	564	5,855
Return of Contributions	2,577	12,242
Health Benefits	17,759	104,733
Arrearage	0	(23,840)
Subtotal	$ 67,534	$ 622,857
Inactive Members		
Not Vested		$ 7,267
Vested Terminations		29,716
Retirees & Beneficiaries		382,711
Subtotal		$ 419,694
Totals		$1,042,551

Section 2.3
CALCULATION OF TOTAL CONTRIBUTION
RATE FOR FISCAL YEAR 1988 (in thousands)

Normal Cost Rate

(1)	Total Normal Cost	$ 67,534
(2)	Total Salaries	358,110
(3)	Normal Cost Rate (1) / (2)	18.86%
(4)	Average Member Contribution Rate	7.24%
(5)	Consolidated Employer Normal Cost Rate, (3) - (4)	11.62%

Past Service Rate

(1)	Present Value of Accrued Benefits	$1,042,551
(2)	Valuation Assets	833,617
(3)	Total Unfunded Liability, (1) - (2)	208,934
(4)	25-Year Amortization Factor	11.528758
(5)	Past Service Payment, (3) / (4)	18,123
(6)	Total Salaries	358,110
(7)	Past Service Rate, (5) / (6)	5.06%

Total Employer Contribution Rate 16.68%

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