REPORT ON

ACTUARIAL VALUATION OF THE

LOS ANGELES CITY

EMPLOYEES' RETIREMENT SYSTEM

JUNE 30, 1988

Suite 1500 1925 Century Park East Los Angeles, CA 90067-2790 213 551-5600 Facsimile: 213 551-5757

TPF&C

a Towers Perrin company

November 30, 1988

Board of Administration City Employees' Retirement System 360 East 2nd Street 8th Floor Los Angeles, California 90012

Members of the Board:

We are pleased to enclose our report setting forth the results of the actuarial valuation of your Retirement System as of June 30, 1988.

The valuation is based on financial statements and employee data furnished by the Retirement Office.

We would like to take this opportunity to express our appreciation for the courtesy and cooperation accorded us by the Retirement Office during the course of our work.

Respectfully submitted,

TOWERS, PERRIN, FORSTER & CROSBY

Timothy J. Marnell, M.A.A., A.S.A.

Principal

TJM/kbo

Enclosure

REPORT ON

ACTUARIAL VALUATION OF THE

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

JUNE 30, 1988

TABLE OF CONTENTS

	PAG
SECTION I - INTRODUCTION	1
SECTION II - MEMBER CONTRIBUTIONS	3
SECTION III - RESULTS OF THE ACTUARIAL VALUATION	
Introduction	5
Funding Method	5
Accounting Balance Sheet	6
Actuarial Balance Sheet	9
SECTION IV - RECOMMENDED CITY CONTRIBUTIONS	13
SECTION V - MEASURES OF FUNDING PROGRESS	
Unfunded Actuarial Accrued Liability (UAAL)	16
SECTION VI - RETIREE HEALTH SUBSIDY	19
SECTION VII - STATISTICAL INFORMATION	20
SUMMARY OF ACTUARIAL ASSUMPTIONS	21
SUMMARY OF MAJOR PLAN PROVISIONS	35

REPORT ON ACTUARIAL VALUATION OF THE

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

SECTION I

INTRODUCTION

In accordance with our agreement with you and with the provisions of the City Charter, we have completed an actuarial valuation of the assets and liabilities of the System as of June 30, 1988.

The Retirement Office furnished us with magnetic tapes containing detailed employee information on all active members of the System as of June 30, 1988. We were also given a tape containing information on all members receiving retirement allowances as of June 30, 1988.

The following schedule shows a summary of the membership of the System as of June 30, 1988.

SUMMARY OF MEMBERSHIP OF SYSTEM AS OF JUNE 30, 1988

ACTIVE MEMBERS

,				erage
	Number	Annual Salary	Age	Monthly salary
Total 6-30-87	20,870	\$645,991,722	41.3	2,579
Total 6-30-88	21,579	697,005,943	41.2	2,692
Percent Increase	+3.4%	+7.9%	-0.2%	+4.4%

PENSIONERS

	Number	Annual Allowance	Average Monthly Allowance
Total 6-30-87	9,794	\$114,857,696	\$ 977
Total 6-30-88	10,052	124,427,120	1,032
Percent Increase	+2.6%	+8.3%	+5.6%

The Retirement Office also furnished us with an accounting balance sheet setting forth the assets and liabilities of the System as of June 30, 1988. We did no physical audit of these assets and our calculations are based on the balance sheet as submitted.

SECTION II

MEMBER CONTRIBUTIONS

Sections 4.1031 and 4.1040(c) of the Administrative Code specify the basis for normal, survivor, and cost-of-living member contribution rates. However, Los Angeles City also enters into collective bargaining agreements with its employees regarding the level of member contributions. The resulting rates need not be those indicated by the code formulas and the current assumptions. To reflect this situation accurately in the current valuation, we have been directed by the Board of Administration to assume that members who have entered the System before February 1, 1983 will contribute at the employee contribution rates specified in the June 30, 1977 valuation report. If certain members contribute at a lower rate through a collective bargaining agreement, the City should contribute 68% of the amount of contribution assumed by the City.

A complete list of member contribution rates from the June 30, 1977 valuation report is also in Section VII. The following table illustrates these rates:

Member Rates of Contribution Including 15% Factor for COL

<u>Aqe</u>	Normal	<u>Continuance</u>	Total
20	8.20%	.44%	8.64%
25	8.58	.63	9.21
30	9.06	.75	9.81
35	9.61	.83	10.44
40	10.19	.91	11.10
45	10.76	.97	11.73
50	11.34	1.03	12.37
55	11.85	1.09	12.94

In addition, members who enter the System on or after February 1, 1983 contribute at a rate of 6%.

The Family Death Benefit Plan monthly contribution of \$3.50 per participating member should be continued until modified by future study.

SECTION III

RESULTS OF THE ACTUARIAL VALUATION

Introduction

The purpose of the actuarial valuation is to analyze the financial condition of the System and to recommend any necessary changes in City contributions. In this section we describe the funding method of the System and give the resulting actuarial balance sheet as of June 30, 1988. Section IV gives the recommended City contributions called for by the funding method. Section V presents various views of the funding progress of the System, including the change in accrued liability over the year as defined by the Governmental Accounting Standards Board (GASB). Throughout the report, all calculations are based on the actuarial assumptions as discussed in Section VI. The "Beta" formula was applied to all active members.

Section VI gives the results of the retiree health subsidy valuation, including the values of the accrued liabilities and the contribution amounts.

Funding Method

The primary funding method of the Los Angeles City Employees' Retirement System is the Projected Unit Credit cost method. This method defines the Normal Cost as the present value, based on each member's attained age, of that portion of the total projected benefits deemed to be earned during the current year. The City's Normal Cost is the excess of the Normal Cost over members' contributions. The Actuarial Accrued Liability is equal to the present value of all benefits allocated to years prior to the current year. The excess of the Actuarial Accrued Liability over the assets is called the Unfunded Actuarial Accrued Liability (UAAL). The Unfunded Actuarial Accrued Liability is amor-

tized over a fixed period of years by City contributions in addition to Normal Cost. Most of the Unfunded Actuarial Accrued Liability is amortized over the period ending June 30, 2004 by contributions that will increase in accordance with the salary scale, i.e., 5-3/4% per year. Certain small liabilities are amortized over shorter periods by level dollar amounts.

The Projected Unit Credit cost method is used to fund all benefits except

Family Death Benefits. For the Family Death Benefit Plan, the amount

contributed in any one year is the present value of expected claims arising

during the year. This method is called the Term Cost Funding Method.

Traditionally, the required contribution has been reviewed biennially following
the valuation.

Accounting Balance Sheet

Our valuation of the Retirement System as of June 30, 1988 was based on the accounting balance sheet furnished by the Retirement Office as shown on the following page. We accepted this statement of assets without audit.

The total value of applicable assets for this valuation of the Retirement System as of June 30, 1988 was determined as follows:

1.	Tot	al assets	\$2,119,602,625
2.		s reserves and liabilities ablished for the following:	
	a.	family death benefit insurance	13,205,497
	b.	20% of undistributed earnings	2,408,626
	c.	retiree medical subsidy	5,128,728
	d.	total	20,742,851
3.	Net	applicable assets as of June 30, 1988	
	(it	em 1 less item 2(c))	2,098,859,774

TPF&C

Preliminary, Unaudited

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM STATEMENT OF RESERVE AND FUND BALANCE ACCOUNTS

ACTUARIAL	<u>1988</u>	<u>1987</u>
Member Contributions Annuities Subsequent Service Cost of Living Family Death Benefit Insurance	\$ 346,413,747 252,052,699 1,105,878,466 390,009,085 13,205,497	\$ 323,512,702 233,563,996 1,007,100,710 347,932,103 12,420,339
Total Acturial	2,107,559,494	1,924,529,850
OTHER		
Undistributed Earnings Fund Balance	12,043,131	11,285,910
Total Other	12,043,131	11,285,910
Total Reserves & Fund Balance	\$2,119,602,625	\$1,935,815,760

CITY OF LOS ANGELES CITY EMPLOYEES RETIREMENT SYSTEM BALANCE SHEETS

Preliminary, Unaudited

	JUNE 30			
ASSETS	1988	1988		7
CASH		\$ 3,242,752		\$ 1,955,636
RECEIVABLES: Accrued interest and dividend income Other receivables Proceeds from sale of investment	\$ 33,876,022 2,908,012 7,771,420	44,555,454	\$ 28,787,582 3,074,621 3,705,230	35,567,433
INVESTMENTS Temporary Bonds Common Stocks	161,054,570 1,145,191,949 774,774,197	2,081,020,716	215,642,383 1,021,162,794 673,588,419	1,910,393,596
TOTAL ASSETS		2,128,818,922		1,947,916,665
LIABILITIES				
ACCOUNTS PAYABLE AND ACCRUED EXPENSES		(9,216,297)	y	(12,100,905)
NET ASSETS AVAILABLE FOR PLAN BENEFITS		\$2,119,602,625		\$ <u>1,935,815,760</u>
FUND BALANCE				
MEMBERS' CONTRIBUTIONS		346,413,747		323,512,702
RESERVE FOR RETIREMENT ALLOWANCE FOR RETIRED MEMBERS AT ACTUARIAL VALUATION				
CITY CONTRIBUTIONS AVAILABLE FOR FUTURE RETIREES (CITY CONTRIBUTIONS REQUIRED TFUND DEFICIENCY)	'O			
Total Fund Balance		\$2,119,602,625		\$ <u>1,935,815,760</u>

Actuarial Balance Sheet

This actuarial valuation of the Retirement System as of June 30, 1988 is based on demographic assumptions developed during the last actuarial investigation and an 8% interest assumption, a 5-3/4% salary increase assumption, and a 3% future cost-of-living increase. The resulting values of assets and liabilities developed by the valuation are set forth in the following Actuarial Balance sheet.

4. Total Assets

ACTUARIAL BALANCE SHEET

AS OF JUNE 30, 1988

ASSETS

1.	Total Applicable Assets			\$2,098,859,774
2.	Present Value of Future Contributi Members	ons of		508,028,400
3.	Present Value of Future Contributi by the City on Account of: a. Basic Pensions: i. Normal Cost ii. Amortization of Certain Liabilities: - Prior Service Pensions - Increase due to 1965 Amendments - Remaining Unfunded Actuarial Accrued Liability	\$ 5,796,831 1,081,777	\$344,014,828 215,883,768	
	 b. Cost-of-Living Pensions: i. Normal Cost ii. Amortization of Certain Liabilities: Increase due to 1967 Amendments Remaining Unfunded 	11,222,828	179,238,372	
	Actuarial Accrued Liability	386,810,648	398,033,476	1,137,170,444

3,744,058,618

ACTUARIAL BALANCE SHEET

AS OF JUNE 30, 1988

<u>LIABILITIES</u>

5.	Present Value of Benefits Already Granted:		
	a. Basic	\$ 968,538,354	
	b. Cost-of-Living	<u>561,838,764</u>	\$1,530,377,118
6.	Present Value of Benefits		
	to Be Granted:		
	a. Basic	1,725,639,900	
	b. Cost-of-Living	488,041,600	2,213,681,500
7.	Total Liabilities		3,744,058,618

TPF&C prepared the actuarial balance sheet in a condensed format using terminology that we hope will aid in its review and discussion.

"Cost-of-Living Pensions" are the postretirement increases provided by Section 510.1 of Article XXXIV of the City Charter and related ordinances.

"Basic Pensions" are all benefits other than "Cost-of-Living Pensions" and the Family Death Benefit Plan provided by Article XXXIV of the City Charter and related ordinances.

"Amortization of Certain Past Service Liabilities" refers to those liabilities of the System amortized over fixed periods of time pursuant to the Charter, ordinance, or Board authorization.

SECTION IV

RECOMMENDED CITY CONTRIBUTIONS

On the basis of the actuarial valuation of the Retirement System as of June 30, 1988, we respectfully submit the following recommendations in accordance with the provisions of Article XXXIV of the City Charter and related ordinances. Using the Projected Unit Credit cost method and assuming that all members will contribute on the basis of the full rates shown in Section III, we recommend that City contributions for fiscal year 1988-1989 be as follows:

		Recommended City Contributions		
		For 1989-1990		
		Percentage		Fixed-Dollar
	•	of Salary	plus	Amount
For B	asic Pensions:			
i.	Normal Cost	3.75%		
ii.	Prior Service-Minimum			
	Pensions (Charter-Period			
	ending June 30, 1997)			\$ 927,955
iii.	Increase due to 1965			
	Amendments (Charter-Period			•
•	ending June 30, 1990)	420-440-		606,627
iv.	Unfunded Actuarial			
	Accrued Liability	2.23%		
v.	Total Basic Pensions	5.98%		\$1,534,582
For C	cost-of-Living Pensions:			
i.	Normal Cost	1.95%		
ii.	Increase due to 1967			
	Amendment (Charter-Period			
	ending June 30, 1997)			1,796,547
iii.	Unfunded Actuarial Accrued			
	Liability (Period ending			
	June 30, 2004)	<u>4.13</u> %		
iv.	Total Cost-of-Living Pensions	6.08%		1,796,547
	i. ii. iv. v. For C i. ii.	ending June 30, 1997) iii. Increase due to 1965 Amendments (Charter-Period ending June 30, 1990) iv. Unfunded Actuarial Accrued Liability v. Total Basic Pensions For Cost-of-Living Pensions: i. Normal Cost ii. Increase due to 1967 Amendment (Charter-Period ending June 30, 1997) iii. Unfunded Actuarial Accrued Liability (Period ending June 30, 2004)	For Basic Pensions: i. Normal Cost ii. Prior Service-Minimum Pensions (Charter-Period ending June 30, 1997) iii. Increase due to 1965 Amendments (Charter-Period ending June 30, 1990) iv. Unfunded Actuarial Accrued Liability v. Total Basic Pensions For Cost-of-Living Pensions: i. Normal Cost ii. Increase due to 1967 Amendment (Charter-Period ending June 30, 1997) iii. Unfunded Actuarial Accrued ending June 30, 1997) iii. Unfunded Actuarial Accrued Liability (Period ending June 30, 2004) 4.13%	For 1989-1 Percentage of salary plus For Basic Pensions: i. Normal Cost 3.75% ii. Prior Service-Minimum Pensions (Charter-Period ending June 30, 1997) iii. Increase due to 1965 Amendments (Charter-Period ending June 30, 1990) iv. Unfunded Actuarial Accrued Liability v. Total Basic Pensions i. Normal Cost ii. Increase due to 1967 Amendment (Charter-Period ending June 30, 1997) iii. Unfunded Actuarial Accrued Liability (Period ending June 30, 2004) 4.13%

		Recommended City Contribution For 1989-1990		
		Percentage of Salary		Fixed-Dollar Amount
c.	Contribution rate for prefunding Health Care Subsidiary (Members eligible to retire or within 5 years of being eligible to retire			
	only)	1.73%		
d.	Total Basic and Cost-of-Living Pensions and Health Care	13.79%		\$3,331,129

e. For the Family Death Benefit Plan:

\$3.50 per month for each participating member in the Family Death Benefit Insurance Plan until modified by subsequent valuation.

An ordinance that became effective in October 1975 permits the City to "subsidize" a portion of employee contributions. Because the portion subsidized by the City will not be refunded to the member upon employment termination before retirement, the City does not have to pay the total amount of employee contributions it subsidizes. On the basis of the actuarial valuation as of June 30, 1988, we recommend the City contribute 68.76% of subsidized employee contributions to the System, i.e., for each \$10,000 the City assumes, it should contribute \$6,876. We note the amount the City subsidizes is the difference between members' actual contributions and the amount of contributions if they contribute at the levels shown in Section VII.

The following table compares present City percentage of salary contribution rates with those proposed.

	City Percentage of Salary Contributions				
	Proposed	Present	<u>Ratio</u>		
Normal Cost	5.70%	5.65%	1.01		
Amortization of UAAL	6.36%	6.51%	0.98		
Health Care Subsidy	1.73%	1.74%*	0.99		
Total	13.79%	13.90%	0.99		

The main reason for the change in the City's contribution percentage in approximate order of impact are: 1) investment earnings in excess of expected; and 2) aggregate salary growth in excess of expected.

We believe if the recommendations contained herein are adopted, the System will be maintained on a sound basis in accordance with the actuarial assumptions and funding methods underlying the calculations.

*See Section VI.

SECTION V

MEASURES OF FUNDING PROGRESS

Several measures can be used to evaluate the funding progress of a retirement system and, in the past, we have presented four of these measures. Because the Projected Unit Credit Method is used to determine the City's contribution and this method has been specified by the GASB as pointed out below, we have reduced our evaluation to this single ratio.

Unfunded Actuarial Accrued Liability (UAAL)

A common method of measuring funding progress is to compare the change in the UAAL from one year to another. Last year the UAAL was \$614,664,799. This year the UAAL decreased to \$613,917,244.

The schedule below compares the assets on hand with the present value of benefits earned to date. This method has been specified by the Governmental Accounting Standards Board Statement No. 5 (November, 1986) as the appropriate method for disclosure. We have shown figures for the current and previous valuations to acquaint you with the funding progress.

A funding ratio of over 100% would mean that monies had already been paid for benefits yet to be earned, and this may not be appropriate in a public retirement system.

The present value of benefits earned to date is calculated on the basis of an ongoing system, i.e., reflecting all actuarial assumptions including future salary increases. Death and disability benefits are prorated by years of service to normal retirement age. This is sometimes referred to as the "Plan Continuation Liability."

1.		ent Value of Benefits ed to Valuation Date	<u>June 30, 1988</u>	<u>June 30, 1987</u>
	(a)	Basic Benefits	\$1,882,777,754	\$1,762,826,568
	(b)	Cost-of-Living Benefits	829,999,264	772,976,470
	(c)	Total	2,712,777,018	2,535,803,038
2.	Appl	icable Assets on Hand		
	(a)	Basic Benefits	1,666,893,986	1,534,605,227
	(b)	Cost-of-Living Benefits	431,965,788	386,533,012
	(c)	Total	\$2,098,859,774	\$1,921,138,239
3.	Fund	ing Ratio		
	(a)	Basic Benefits	88.6%	87.1%
	(b)	Cost-of-Living Benefits	52.0%	50.0%
	(c)	Total	77.4%	75.8%

The increase in funding ratios is primarily a result of expected improvement based on the funding method and a greater than expected investment yield.

To summarize, there are two basic considerations in contemplating the funding status of a system. The first is the assets accumulated to pay benefits and how they compare with the current liability for benefits already earned. The second consideration is normally more important: what is the financial commitment of the plan sponsor to continue to fund both benefits earned to date and benefits to be earned in the future, and does the plan sponsor have the financial resources to meet budgetary obligations both next year and in the future, as recommended in Section V? However, as pointed out earlier, the City has adopted as a valuation funding method the same method as GASB adopted, namely Projected Unit Credit. Therefore, these two considerations regarding the funding status produce identical measures.

SECTION VI

RETIREE HEALTH INSURANCE SUBSIDY

Effective with the June 30, 1986 actuarial valuation and City contribution rates beginning July 1, 1987, the City has begun to prefund the retiree health insurance subsidy.

In the past, when a member eligible for the retiree health insurance subsidy retired, the "retirement" allowance used in the actuarial valuation included the subsidy and hence some "prefunding" occurred. This procedure has continued and the City is now also prefunding for active members eligible to retire.

We have estimated the amount of the reserve from the additional prefunding and used it to determine the recommended contribution for the fiscal year beginning July 1, 1989. The table below gives additional details on the calculations. The amounts have been calculated for members eligible to retire and then determined as a percentage of total system payroll.

		Amount	% of Pay
Normal Cost		\$ 1,533,400	.22%
Actuarial Accrued Liability	146,596,903		N/A
Estimated Reserve	5,128,728		N/A
Unfunded Actuarial Liability	141,468,175		N/A
Amortization Amount		10,524,800	<u>1.51</u> %
Recommended Contribution		\$ 12,058,200	1.73%

SECTION VII

STATISTICAL INFORMATION

- Summary of Actuarial Assumptions
- Mortality after Service Retirement Schedule 1
- Mortality after Disability Retirement Schedule 2
- Probability of Occurrence (of Decrements from Active Service)
 Schedule 3: Male, Female
- Member Contribution Rates
- Distribution of Active Members by Age and Service
- Distribution of Pensioners by Age and Year of Retirement
- Summary of Major Plan Provisions

SUMMARY OF ACTUARIAL ASSUMPTIONS

The Projected Unit Credit cost Method was used in conjunction with the following actuarial assumptions:

- 1. Interest: 8.0% per annum.
- 2. Salary Scale: 5.75% per annum.
- 3. Spouses and Dependents: 75% of male employees and 55% of female employees assumed married at retirement, with wives assumed four years younger than husbands.
- 4. Rehire of Former Employees: Assumed not to be rehired.
- 5. Asset Valuation: Asset values taken directly from statements furnished by the City.
- 6. Rates of Termination of Employment: As shown on the following pages titled "Probability of Occurrence."
- 7. Probabilities of Mortality after Retirement: As shown in table that follows (Schedule 1).
- 8. Probabilities of Mortality after Disability: As shown in table that follows (Schedule 2).
- 9. Cost-of-Living Increases: 3.0% per annum, compounded annually.

10. Health Benefits Liability: A liability for retired members is determined by computing the present value of health insurance premiums, assuming they will be paid during the future lifetime of each member. An additional liability is also determined for those active participants eligible to retire as of the valuation date.

EXPECTATION OF LIFE

1971 Group Annuity * (x-0) (x-6)

Age	_Male_	<u>Female</u>
15	60.13 years	65.97 years
20	55.26	61.10
25	50.40	56.23
30	45.57	51.37
35	40.76	46.53
40	36.01	41.72
45	31.36	36.96
46	30.45	36.01
47	29.55	35.07
48	28.66	34.13
49	27.78	33.20
50	26.91	32.28
	20131	32.20
51	26.05	31.36
52	25.20	30.45
53	24.36	29.55
54	23.53	28.66
55	22.71	27.78
33	22.71	27.76
56	21.90	26.91
57	21.10	26.05
58	20.31	25.20
59	19.53	24.36
60	18.76	23.53
	10.70	23.33
61	18.00	22.71
62	17.26	21.90
63	16.53	21.10
64	15.81	20.31
65	15.00	19.53
0 5	13.00	13.33
66	14.43	18.76
67	13.77	18.00
68	13.13	17.26
69	12.50	16.53
70	11.91	15.81
- -		

^{*} This table was used with a two-year age setback.

TPF&C

(continued)

EXPECTATION OF LIFE

1971 Group Annuity * (x-0) (x-6)

Age	<u>Male</u>	<u>Female</u>
71	11.33 ye	ears 15.11 years
72	10.79	14.43
73	10.26	13.77
74	9.74	13.13
75	9.24	12.50
76	8.76	11.91
77	8.28	11.33
78	7.83	10.79
79	7.41	10.26
80	7.00	9.74
81	6.63	9.24
82	6.27	8.76
83	5.94	8.28
84	5.63	7.83
85	5.34	7.41
86	5.06	7.00
87	4.80	6.63
88	4.55	6.27
89	4.31	5.94
9 0	4.08	5.63
91	3.87	5.34
92	3.66	5.06
93	3.46	4.80
94	3.26	4.55
95	3.07	4.31
96	2.89	4.08
97	2.71	3.87
98	2.54	3.66
99	2.37	3.46
100	2.20	3.26
101	2.04	3.07
102	1.88	2.89
103	1.72	2.71
104	1.55	2.54
105	1.38	2.37

^{*} This table was used with a two-year age setback.

(continued)

EXPECTATION OF LIFE

1971 Group Annuity * (x-0) (x-6)

<u>Age</u>	<u>Male</u>	<u>Female</u>
106	1.21 years	2.20 years
107	1.04	2.04
108	.88	1.88
109	.71	1.72
110	.50	1.55

^{*} This table was used with a two-year age setback.

1981 DISABILITY MORTALITY TABLE

		1901 DISABILI	II MONIAUIII	TVDDG	
<u>Age</u>	<u>General</u>	<u>Safety</u>	Age	General	<u>safety</u>
20	.0066	.0019	65	.0379	.0368
21	.0074	.0020	66	.0390	.0385
22	.0080	.0021	67	.0400	.0400
23	.0085	.0022	68	.0411	.0411
24	.0091	.0023	69	.0422	.0422
25	.0096	.0024	70	.0437	.0437
26	.0100	.0026	71	.0454	.0454
27	.0106	.0027	72	.0472	.0472
28	.0106	.0028	73	.0496	.0496
29	.0112	.0030	74	.0526	.0526
30	.0122	.0031	75	.0553	.0553
31	.0127	.0033	76	.0601	.0601
32	.0132	.0034	77	.0659	.0659
33	.0137	.0036	78	.0726	.0726
34	.0143	.0038	79	.0797	.0797
35	.0148	.0040	80	.0874	.0874
36	.0154	.0042	81	.0955	.0955
37	.0159	.0044	82	.1037	.1037
38	.0165	.0046	83	.1123	.1123
39	.0170	.0049	84	.1211	.1211
40	.0176	.0051	85	.1301	.1301
41	.0182	.0054	86	.1393	.1393
42	.0188	.0057	87	.1487	.1487
43	.0194	.0060	88	.1585	.1585
44	.0201	.0064	89	.1687	.1687
45	.0208	.0067	90	.1795	.1795
46	.0215	.0071	91	.1905	.1905
47	.0222	.0076	92	.2017	.2017
48	.0229	.0081	93	.2123	.2123
49	.0236	.0086	94	.2265	.2265
50	.0244	.0092	95	.2412	.2412
51	.0252	.0099	96	.2562	.2562
52	.0259	.0107	97	.2725	.2725
53	.0267	.0117	98	.2902	.2902
54	.0275	.0130	99	.3091	.3091
55	.0284	.0150	100	.3298	.3298
56	.0293	.0177	101	.3525	.3525
57	.0303	.0210	102	.3772	.3772
58	.0312	.0236	103	.4062	.4062
59	.0321	.0260	104	.4415	.4415
60	.0330	.0280	105	.4852	.4852
61	.0339	.0298	106	.5393	.5393
62	.0348	.0315	107	.6061	.6061
63	.0358	.0332	108	.6874	.6874
64	.0369	.0350	109	.7856	.7856
		3000	110	1.0000	1.0000
•					$TDE_{\alpha}C$

TPF&C

PROBABILITY OF TERMINATION OF EMPLOYMENT

The following pages indicate the probability of termination of employment for each of nine separate sources of termination:

- Ordinary withdrawal: member terminates and elects refund of member contributions.
- Vested withdrawal: member terminates and contributions are left on deposit.
- Ordinary death: member dies before eligibility for retirement; death not employment-related.
- Ordinary disability: member receives disability retirement where the member's disability is not employment-related.
- Service retirement: member retires after satisfaction of requirements of age and/or service for reasons other than disability.
- Service disability: member receives disability retirement as the result of employment-related disability.
- Service death: member dies before retirement as the result of performance of assigned duties.
- DWE Service Retirement: member dies before retirement but after satisfaction of age and/or service requirements for service retirement.
- DWE Disability Retirement: member dies before retirement but after satisfaction of age and/or service requirements for disability retirement.

The probabilities shown for each cause of termination represent the probability that a given member will terminate at a particular age for the indicated reason. For example, if the probability of ordinary withdrawal at age 25 is .1000, then we are assuming that 10% of the active members at age 25 will terminate without vested rights during the next year.

1,000 0,00	INAR	VESTED WITHDRA	~ W :	ORDINARY DI SABL TV	SERVICE	SERVICE DI SABL TV	SERVICE DEAIH	DWE SVC RET	
1,000 0.0000 0.	0.000	0.	0	0.00	0	. 0	0.00	, ,	
2345 1	י פ	•	•	9.9	9.9	•			٠.
1.15 1.0000 1.0004 1.0004 1.0000 1.0	٠.			? =	-	•	•	•	0.0000
1.566 0.0000 0.0004 0.0000 0.	4	0		۹.					0.0000
1.0000 1	٠.	<u>.</u>	•		•	•	•	•	
1.50 1.50		ė	•	9.0	۰. ۹	•		•	•
1,140 0,0000 0,	-	id		. 0	-	•		•	0000.0
1,140 0,0000 0,	-	•		9					•
1,12,00 0,0000	_	000'0	•	٠.	•	•	•	•	
17.00 0.0000 0.	- .	0.000		9.	•	•	•	•	•
1,000 1,00		00.0		٠, c	9.9	٠	•	•	•
1,000 1,00				-	-	•	3 5	•	0000
0.0000 0		0.000			9				•
0.0000 0.00010 0.00114 0.00104 0.0000 0.00		0.000		9					0000.0
1,000 0.0000 0.0001 0.0001 0.0000 0.	•	000.0		00.	•	•	٠.	•	•
0.0000 0.0014 0.0016<	٠,	0.00		00.	٠.	•	•	<u> </u>	•
0.550 0.0000 0.0014 0.0014 0.0000 0.0	9.9	000.0		3	<u>ء</u> د	•	•	•	0.000
Control Cont	. מפר					•	-	•	0000.0
0.450 0.0000 </td <td>050</td> <td></td> <td></td> <td></td> <td>ָם כ</td> <td></td> <td></td> <td></td> <td>0.000</td>	050				ָם כ				0.000
0.450 0.0000 </td <td>. 0</td> <td>0.000</td> <td></td> <td>8</td> <td></td> <td></td> <td>8</td> <td>•</td> <td></td>	. 0	0.000		8			8	•	
0.430 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.430 0.0000 0.0024 0.0002 0.0000 0.0000 0.0000 0.0000 0.340 0.0000 0.0024 0.0021 0.0000 0.0000 0.0000 0.0000 0.0000 0.340 0.0000 0.0024 0.0022 0.0000 0.0000 0.0000 0.0000 0.0000 0.340 0.0000 0.0024 0.0022 0.0000 0.0000 0.0000 0.0000 0.340 0.0000 0.0024 0.0022 0.0000 0.0000 0.0000 0.0000 0.0000 0.270 0.0000 0.0024 0.0023 0.0024 0.0000 0.0000 0.0000 0.0000 0.0000 0.270 0.0000 0.0024 0.0023 0.0024 0.0024 0.0024 0.0000 0.0000 0.0000 0.0000 0.270 0.0000 0.0024 0.0023 0.0024 0.0024 0.0000 0.0000 </td <td>•</td> <td>000.0</td> <td></td> <td>80.</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td>	•	000.0		80.	•	•	•	•	•
0.0000 0.0024 0.0022 0.0020 0.0000 0.0000 0.0000 0.3400 0.0000 0.0024 0.0021 0.0000 0.0000 0.0000 0.0000 0.340 0.0000 0.0024 0.0021 0.0000 0.0000 0.0000 0.0000 0.320 0.0000 0.0024 0.0000 0.0000 0.0000 0.0000 0.0000 0.320 0.0000 0.0023 0.0020 0.0000 0.0000 0.0000 0.0000 0.250 0.0000 0.0023 0.0020 0.0000 0.0000 0.0000 0.0000 0.250 0.0000 0.0023 0.0023 0.0023 0.0000 0.0000 0.0000 0.250 0.0000 0.0024 0.0023 0.0023 0.0000 0.0000 0.0000 0.251 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.252 0.0000 0.0002 0.0000 0.0000 0.0000 0.0000	٥.	000.0			۰.	•	•	•	•
0.350 0.0000 0.0024 0.0021 0.0000 </td <td>9.5</td> <td>0.00</td> <td></td> <td></td> <td>-</td> <td>•</td> <td></td> <td></td> <td>0.0000</td>	9.5	0.00			-	•			0.0000
0.320 0.0000 0.0022 0.0000 </td <td>3 6</td> <td>000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	3 6	000							
0.220 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.320 0.0000 0.0034 0.0022 0.0000 0.0000 0.0000 0.0000 0.320 0.0000 0.0034 0.0023 0.0030 0.0000 0.0000 0.0000 0.0000 0.220 0.0000 0.0040 0.0023 0.0040 0.0000 0.0000 0.0000 0.220 0.0000 0.0044 0.0023 0.0040 0.0000 0.0000 0.0000 0.220 0.0000 0.0044 0.0023 0.0043 0.0000 0.0000 0.0000 0.221 0.0000 0.0034 0.0024 0.0445 0.0000 0.0000 0.0000 0.150 0.0000 0.0037 0.0024 0.0445 0.0000 0.0000 0.0000 0.140 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.140 0.0000 0.0000 0.0000 0.0000 0.0000	034	000.0		.002	•	0.0000	•	•	•
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.250 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.250 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.250 0.0000 0.0004 0.0023 0.0023 0.0000 0.0000 0.0000 0.250 0.0000 0.0004 0.0023 0.0023 0.0000 0.0000 0.0000 0.251 0.0000 0.0000 0.0024 0.0235 0.0000 0.0000 0.0000 0.150 0.0000 0.0024 0.0675 0.0000 0.0000 0.0000 0.0000 0.150 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.150 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.150 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	6	000.0		.002	•	•	•	•	•
0.250 0.0000 0.0034 0.0023 0.0030 0.0000 </td <td>.03</td> <td>000.0</td> <td></td> <td>.002</td> <td>٠.</td> <td>•</td> <td>٠,</td> <td>•</td> <td>0.0000</td>	.03	000.0		.002	٠.	•	٠,	•	0.0000
0270 0.0000 <td>.028</td> <td>000.0</td> <td></td> <td>.002</td> <td>•</td> <td>•</td> <td></td> <td>•</td> <td>0000</td>	.028	000.0		.002	•	•		•	0000
0.240 0.0000 0.0055 0.0000 0.0000 0.0000 0.0000 0.240 0.0000 0.0054 0.0024 0.0235 0.0000 0.0000 0.0000 0.220 0.0000 0.0034 0.0024 0.0675 0.0000 0.0000 0.0000 0.130 0.0000 0.0034 0.0024 0.0675 0.0000 0.0000 0.0030 0.130 0.0000 0.0045 0.0024 0.0675 0.0000 0.0030 0.0030 0.140 0.0000 0.0045 0.0024 0.1000 0.0000 0.0030 0.140 0.0000 0.0024 0.1000 0.0000 0.0040 0.120 0.0000 0.0024 0.1000 0.0000 0.0040 0.120 0.0000 0.0000 0.0000 0.0000 0.0000 0.120 0.0000 0.0000 0.0000 0.0000 0.0000 0.120 0.0000 0.0000 0.0000 0.0000 0.0000 0	. 027	00.00		200	-		ָר כ		
0.220 0.0050 0.0024 0.0235 0.0235 0.0000 </td <td>. 620</td> <td></td> <td></td> <td>007</td> <td>. –</td> <td></td> <td></td> <td>٠.</td> <td>•</td>	. 620			007	. –			٠.	•
0.0000 0.0034 0.0045 0.0045 0.0000 0.0020 0.0024 0.0045 0.0020 0.0020 0.0020 0.0024 0.0045 0.0000 0.0030 0.0044<	022	0.000		.002	۹.	•	•	•	٠
0190 0.0000 <td>.021</td> <td>000.0</td> <td></td> <td>.002</td> <td>٠.</td> <td>•</td> <td>9</td> <td>3 8</td> <td>0.000</td>	.021	000.0		.002	٠.	•	9	3 8	0.000
0170 0.0000 0.0040 0.0024 0.0024 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0040 0.0044 0.0040 0.0040 0.0040 0.0040 0.0040 0.0044 <td>019</td> <td>000.0</td> <td></td> <td>. 002</td> <td>٦,</td> <td>•</td> <td>3</td> <td>3</td> <td>0000</td>	019	000.0		. 002	٦,	•	3	3	0000
0150 0.0050 0.0050 0.0050 0.0040 0110 0.0050 0.0054 0.1000 0.0000 0.0044 0120 0.0000 0.0055 0.0024 0.1400 0.0000 0.0044 0110 0.0000 0.0055 0.0024 0.1400 0.0000 0.0044 0100 0.0000 0.0056 0.0025 0.1500 0.0000 0.0054 0000 0.0000 0.0025 0.1680 0.0000 0.0000 0.0054 0000 0.0000 0.0000 0.0000 0.0000 0.0056 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	017	0.000		200	-	•	38	8	٠.
0120 0.0000 0.0000 0.0000 0.0000 0.0000 0120 0.0000 0.0005 0.0024 0.1400 0.0000 0.0000 0100 0.0000 0.0055 0.0024 0.1500 0.0000 0.0000 0000 0.0000 0.0025 0.1680 0.0000 0.0000 0.0054 0000 0.0000 0.0025 0.1680 0.0000 0.0000 0.0056 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	9 3	00.0		000	! -		0	8	
0.000 0.0062 0.0024 0.1400 0.0000 0.0049 0.0100 0.0069 0.0025 0.1500 0.0000 0.0000 0.0054 0.060 0.0000 0.0076 0.0025 0.1680 0.0000 0.0000 0.0056 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0066 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.2240 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.2240 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 <td>֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֓֓֓֡֓֓֡֓֡</td> <td></td> <td>9</td> <td>005</td> <td>: -.</td> <td></td> <td>8</td> <td>00.</td> <td>•</td>	֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֓֓֓֡֓֓֡֓֡		9	005	: - .		8	00.	•
0.000 0.0069 0.0025 0.1500 0.0000 0.0000 0.0000 0.000 0.0076 0.0025 0.1680 0.0000 0.0000 0.0000 0.000 0.000 0.0025 0.1680 0.0000 0.0000 0.0000 0.000 0.000 0.000 0.0000 0.0000 0.0000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	י כ פ			.002	=	•	8	90.	•
0.0000 0.0006<	000	000.0	•	9.		•	8	900.	٠
0030 0.0000 0.0004 0.0025 0.2125 0.0000 0.0000 0.0000 0.0004 <td>900</td> <td>000.0</td> <td>۹.</td> <td>9</td> <td>٦.</td> <td>•</td> <td><u>ء</u> د</td> <td>900</td> <td>0.000</td>	900	000.0	۹.	9	٦.	•	<u>ء</u> د	900	0.000
. 0000	.003	000.0	٩.	<u>.</u>	7.	•	-	00.	
. 0000	000	000.00	3	. 9	•	•	•	.008	
. 0000 0.0000 0.0000 0.0000 0.2240 0.0000 0.0000 0.0000 0.0097 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00	00	00.00	5 6	•	•			. 009	•
	9		9			•	8	8	٠
0000 0 0000 0 00000 0 00000 0 00000 0 0000	8	000.0	9	0000	0.2	•	8	5	•
	0	000.0	9	0000	<u>-</u>	•	3	פריי	0.0000 7.7.4.4.0

a Towers Perrin company

	DWE DIS RET		8	00000	8	9		38	8	9	0000		000	0.000		000	•	9.9	0000	9	0	•		9	•	0.0000	0.0000	0	•	•	0000		8	0000	3 5	8	8	96	38		8	8	0.00.0	į (IFFEC
	DWE SVC RET	0000	000	0.000	.000	9.9		000	000	000	0000	000	000	0.000		8	000	000		000	000	000	0.0000		000	000	0.000	90	000	000	0000	000	9	000	38	000	000	000	0000.0		000	000	0.0000		
	SERVICE DEATH	0.0000	0.0000		0		9 0		•	0.000	0000.0	•	9.9	0000	0000.0	•	0.000	9	0000	9 0	•	0		9	9	9		0000.0	•	9	0.000	0000.0	•	9		. 0	•	0.0000	•	-	. •	000	0000.0		
ELIGIBILITY)	CE	; •	0.000		000	0.000		•	•	0000	. 0	•	9.9	0.000		•	•	<u>.</u> و	0000	ָם כ	•	•	٠, ٥	0000		•	0000.0	9 9		•	0.000	9	•	88	0.000			•	9	0.000		. •	9.9	0 . 0000	
MEMBENS Rence (Including	SERVICE RETIRE	0	0000		•	0000	0.000	0.0000	٠.	0.0000	. 0	•	•	0000			•	۰. ۹	0000	0000		•	•	0000		•	•	0.0010		•	. c	0.0039	03	.035	.058	o a		. 12	<u> </u>	0.2240	n c	- 6	0.25	1.0000	and the second s
GENERAL DF OCCUR	MA	0.0	00000		9.9	0000	. 0	٥.	0.0000	0.0000	000	•	9		000	•	•	<u>.</u> و	0.0003	ָם כָּ		000	90.		9	00.	9.5		.002	9	.003	0.00	00	00	7 6			٠.	000.	000		000	000	0 0000	
FEMALE PROBABILITY	ORDINARY DEATH	0.00	0.0000	8	9		30	8	8	38	0.0006	8	9	3 5	38	8	8	3	0.0012		00.	00	9100.0			.002	.002	מפסי	005	.002	.003		003	00.	00.	200.		.007	.00	600.	-		. -	000	
	VESTED WITHDRAW	0.000	0.000		•	0000		•	900		0	000	88			000	000.	•				000	000	0.000	0000	000	•				000.	0.000		000	000	000		000	000	8	000			000	
1	ORDINARY WI THDRAW	0.0		0.1740			: -	_	<u> </u>	- -		=	90 .	0.1020	? 9	80.	•	٠.	. 066	-	0.0560	0	•	۰. ۹	0.0400			٠. ٥	5 C		٠.	030	0.06	024	.022	.020	9 :	000	00	0	000	000	0.000	000.	
	ALIF NEAHESI	3	6 C	212	? c	2.4	5 2	98	27	97	30	31	32		. G	36	31	96	66	9 7	4 4	4.5	4	45	4 4 0 7	9	49	09	- c		5.4	6 5	9.5	95	69	09	19	79	2 4	99	99	79	9 5	70	

APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

	Normal		Normal
<u>ap4</u>	Contribution Rate	Age	Contribution Rate
			10 100
16	8 000	40 41	10.19%
· _	8.00%		10.29
	8.04	42	10.41
18	8.08	43	10.52
19	8.14	44	10.64
20	8.20	45	10.76
21	8.27	46	10.89
22	8.34	47	11.01
23	8.42	48	11.12
24	8.50	49	11.24
25	8.58	50	11.34
26	8.66	51	11.44
27	8.75	52	11.55
28	8.86	53	11.65
29	8.96	54	11.75
30 .	9.06	55	11.85
31	9.17	56	11.94
32	9.28	57	12.03
33	9.40	58	12.13
34	9.50	59	12.19
34	9.50	33	12.19
35	9.61		
36	9.73		
37	9.84		
38	9.96		
39 `	10.07		

71 GAM 5-3/4% 3-1/2% s/s

APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

	_		•
	Survivor	•	Survivor
Age	Contribution Rate	<u>Aqe</u>	Contribution Rate
		40	.91%
16	.22%	41	.92
17	.28	42	.93
18	.33	43	.94
19	.39	44	.95
20	.44	45	.97
21	.48	46	.98
22	.53	47	.99
23	.56	48	1.00
24	.60	49	1.01
25	.63	50	1.03
26	.66	51	1.05
27	.68	52	1.06
28	.70	53	1.07
29	.72	54	1.08
30	.75	55	1.09
31	.77	56	1.10
32	.79	57	1.12
33	.81	58	1.13
34	.82	59 and over	1.14
35	.83		
36	.85		
37	.86		
38	.87		
39	.90		
= -			

71 GAM 5-3/4% 3-1/2% S/S

APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

Applicable Only to Employees Whose Normal and Survivor Contribution Rates Are Assigned by the Same Age

	Total		Total
<u>Aqe</u>	Contribution Rate	Age	Contribution Rate
		40	11.10%
16	8.22%	41	11.21
17	8.32	42	11.34
18	8.41	43	11.46
19	8.53	44	11.59
20	8.64	45	11.73
21	8.75	46	11.87
22	8.87	47	12.00
23	8.98	48	12.12
24	9.10	49	12.25
25	9.21	50	12.37
26	9.32	51	12.49
27	9.43	52	12.61
28	9.56	53	12.72
29	9.68	54	12.83
30	9.81	55	12.94
31	9.94	56	13.04
32	10.07	57	13.15
33	10.21	58	13.24
34	10.32	59	13.33
35	10.44		
36	10.58		
37	10.70		
38	10.83		
39	10.97		

71 GAM 5-3/4% 3-1/2% s/s

AGE/SERVICE DISTRIBUTION TOTAL MEMBERS

	** SERVICE **													
AGE		0-1	1-2	2-3	3-4	4-5	5-9 *****	10-14	15-19	20-24 *****	25-29 *****	30-34 ******	35- TOTA	
15-19	*NO. * *TOT.AMT* AVE.AMT*	33 579732 17568	2 39272 19636	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 3 0 61900 0 1768	4
20-24	*NO. * *TOT.AMT* AVE.AMT*	461 9676352 20990	286 6117886 21391	134 2977903 22223	108 2645250 24493	30 753341 25111	9 277321 30813	0 0 0	0 0 0	· 0	0 0 0	0 0 0	0 102 0 2244805 0 2183	3
25-29	*NO. * *TOT.AMT* AVE.AMT*	584 13811085 23649	587 15357447 26163	448 12547209 28007	391 11038419 28231	240 6964404 29018	493 14016793 28432	11 306083 27826	0 0 0	0 0 0	0 0 0	0	0 275 0 7404144 0 2688	0
30-34	*NO. * *TOT.AMT* AVE.AMT*	455 11639799 25582	436 12288182 28184	382 11720955 30683	357 11106783 31111	283 9185272 32457	863 26901536 31172	352 10638006 30222	11 324956 29541	0 0 . 0	0 0	0 0 0	0 313 0 9380548 0 2988	9
35-39	*NO. * *TOT.AMT* AVE.AMT*	327 8926366 27298	323 9083731 28123	333 10293073 30910	269 8732912 32464	174 5402603 31049	767 25210544 32869	753 26022147 34558	451 14838382 32901	10 322108 32211	0 0 0	0 0 0	0 340 010883186 0 3194	6
40-44	*NO. * *TOT.AMT* AVE.AMT*	256 7224366 28220	241 7311093 30336	170 5125570 30150	169 5381905 31846	138 4422480 32047	498 16980363 34097	633 23720871 37474		282 10977005 38926	10 363168 36317	0 0 0	0 328 011551831 0 3518	1
45-49	*NO. * *TOT.AMT* AVE.AMT*	123 3471452 28223	140 3975378 28396	116 3584571 30901	109 3460188 31745	86 2855555 33204	284 9705156 34173	347 12342081 35568	555 20927581 37707	527 21332616 40479	172 6708985 39006	10 388299 38830	0 246 0 8875186 0 3594	2
50-54	*NO. * *TOT.AMT* AVE.AMT*	73 2057678 28187	89 2729061 30664	76 2467720 32470	71 2270781 31983	52 1720124 33079	232 7477569 32231	248 8473437 34167	393 13774808 35050	458 16965157 37042	319 12803558 40137	207 8053118 38904	2 222 63193 7885620 31597 3552	4
55-59	*NO. * *TOT.AMT* AVE.AMT*	58 1709129 29468	51 1312792 25741	39 1303620 33426	34 1114666 32784	34 1070359 31481	134 4327512 32295	215 7095551 33003	265 8855950 33419	275 9747599 35446	326 13167247 40390	205 8359415 40778	30 166 1322223 5938606 44074 3564	3
60-64	*NO. * *TOT.AMT* AVE.AMT*	27 791878 29329	26 733348 28206	27 832436 30831	33 1062178 32187	23 742266 32272	108 3649658 33793	159 5359946 33710	202 6886713 34093	171 5953314 34815	137 5006196 36542	95 3731202 39276	47 105 2036350 3678548 43327 3486	5
65-	*NO. * *TOT.AMT* AVE.AMT*	7 148807 21258	9 237828 26425	14 335114 23937	9 202367 22485	5 121055 24211	65 2101458 32330	88 3068712 34872	101 3327282 32943	102 3548570 34790	40 1467270 36682	48 1644615 34263	35 52 1759088 1796216 50260 3434	6
TOTAL	*NO. * *TOT.AMT* AVE.AMT*	2404 60036644 24974	2190 59186018 27026	1739 51188171 29435	1550 47015449 30333	1065 332374591 31209	3453 10647910 32044	2806 970268341 34578	28 <u>6</u> 4 102947162 35945	1825 68846369 37724	1004 39516424 39359	565 22176649 39251	114 2157 518085469700594 45446 3230	3

AVERAGE AGE * 41.2 * AVERAGE SERVICE * 9.7 *

DISTRIBUTION OF PENSIONERS BY YEAR OF RETIREMENT AND BY ATTAINED AGE AS OF 6/88

TOTAL OF ALL MEMBERS

** YEAR OF RETIREMENT **

ATTAINED AGE	PRE '68 •••	'68 •••	'69 •••	'70 •••	′71	′72	'73 •••	'74 •••	'75 •••	'76 •••	'77 •••	'78 •••	'79 •••	'80 •••	'81 •••	'82 •••	'83 •••	'84 •••	'85 •••	'86 •••	'87 •••	TOTAL	AVG AMT
0- 29	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	Ò	3	3	0	13	3352
30- 34	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	2	2	1	8	8351
35- 39	0	0	0	0	0	0	0	0	0	0	0	3	6	4	6	6	5	7	5	7	1	50	7843
40- 44	0	1	0	0	0	1	1	1	5	5	2	8	5	14	8	9	7	4	7	6	5	89	8163
45- 49	1	0	0	0	1	4	1	5	9	4	10	15	16	7	5	8	6	9	6	8	4	119	7520
50- 54	1	0	2	3	5	2	9	2	7	15	7	10	21	13	16	9	15	11	12	9	3	172	7665
55- 59	4	0	0	3	7	6	4	5	12	13	20	18	11	25	31	18	46	97	98	141	168	727	15085
60- 64	10	4	5	4	14	10	15	22	21	27	37	83	91	111	117	238	228	167	139	181	145	1669	16208
65- 69	34	10	9	10	20	27	20	54	75	104	157	222	181	182	213	246	205	179	110	136	107	2301	14624
70- 74	53	14	27	27	50	63	108	96	160	192	173	198	167	132	134	95	83	79	35	37	32	1955	12205
75- 79	196	51	44	55	70	78	122	81	136	135	101	87	46	33	41	31	17	8	10	4	3	1349	9615
80- 84	321	61	57	42	63	66	84	51	50	33	13	. 9	7	7	3	2	1	0	3	2	1	876	8429
85- 89	332	44	22	29	20	24	19	1	2	0	1	2	0	0	0	0	1	0	0	0	0	497	7448
90- 94	170	11	4	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	188	6338
95- 99	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	5395
100-104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105-999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT NUM	1165	196	170	173	251	281	384	318	478	528	521	655	554	530	574	663	614	561	430	536	470	10052	
AVG AMT	6045	7054	6257	7107	7344	76991	0032	95851	12031	25271	18271	25241	26651	21941	36071	67861	64261	64891	62131	71191	8257		

^{*} AVG AMT * 12378

^{*} TOT.PEN. 124427120 *

SUMMARY OF MAJOR PLAN PROVISIONS

1. Membership Requirements

First of month following employment.

2. Final Monthly Compensation

Highest 12-month average salary.

3. Service Retirement

A. Eligibility

Ten years of service and age 55, or 30 years of service any age, or age 70.

B. Allowance

"Beta" Formula - 2.16% of final monthly compensation for each year of service (reduced if retirement before age 60); however, member may retire on full accrued pension if he or she has completed at least 30 years of service and has attained age 55.

<u>Prior Formula</u> - 2% of final monthly compensation for each year of service (reduced if retirement before age 58-3/4).

C. Form of Payment

Monthly allowance payable for life with 50% continuance to eligible spouse. Larger continuance available as option with reduced allowance.

4. Disability Retirement

A. Eligibility

Five or more years of continuous service and physically or mentally incapacitated so unable to perform duties of position.