# THE PRISON OFFICERS' PENSION FUND OF NEW JERSEY ANNUAL REPORT OF THE ACTUARY PREPARED AS OF JULY 1, 2011

R:\TOBIN\2012\January\NJ01032012JC\_POPF 2011 Report\_Final.doc

### **buck**consultants

### A Xerox Company

January 6, 2012

Board of Trustees Prison Officers' Pension Fund of New Jersey Trenton, New Jersey

Members of the Board:

The law governing the operation of the Prison Officers' Pension Fund of New Jersey provides for annual actuarial valuations of the Fund. The results of the July 1, 2011 valuation are submitted in this report, which also includes a comparison with the preceding year's valuation.

The valuation shows the financial condition of the Fund as of July 1, 2011 and gives the basis for determining the required annual contribution for the plan year beginning July 1, 2011.

The valuation was prepared on the basis of the same assumptions as were employed for the previous valuation, which include an interest rate of 5% per year.

The report does not take into account any changes in U.S. equity prices and bond yields that have occurred after the valuation date. Taking these into account may significantly change the market and actuarial value of assets shown. The effect of these events on any funded ratios shown, and on the Fund's calculations, is not known. The Fund's funding and financial accounting rules generally prohibit reflection of changes in assets and underlying economic conditions that occur after the valuation date.

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent qualified actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board and generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the Fund, and on actuarial assumptions that are individually and in the aggregate internally consistent and reasonable based on the actual experience of the Fund.

The Table of Contents, which follows, highlights the Sections of the Report.

Respectfully submitted,

Janet H. Cranna, F.S.A., E.A., M.A.A.A., F.C.A.

Principal, Consulting Actuary

#### TABLE OF CONTENTS

Section	<u>Item</u>	Page No.
I	Summary of Key Results	1
II	Employee Data	5
III	Assets, Liabilities and Contributions	7
	<ul> <li>A. Market Value of Assets as of June 30, 2011</li> <li>B. Reconciliation of Market Value of</li></ul>	
IV	Comments Concerning the Valuation	10
V	Accounting Information	11
Appendix		
A	Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes	14
В	Outline of Actuarial Assumptions and Methods	16
С	Tabulations Used as a Basis for the 2011 Valuation  - Table 1 – Service Retirements  - Table 2 – Ordinary Disability Retirements  - Table 3 – Accidental Disability Retirements  - Table 4 – Active Members' Death Benefits  - Table 5 – Retired Members' Death Benefits	17

# REPORT ON THE ANNUAL VALUATION OF THE PRISON OFFICERS' PENSION FUND OF NEW JERSEY PREPARED AS OF JULY 1, 2011

#### **SECTION I - SUMMARY OF KEY RESULTS**

The Prison Officer's Pension Fund of New Jersey was established under Chapter 220 of the Laws of 1941 and permitted prison officer members of the then State Employees' Retirement System to transfer to the new Fund. Effective January 1, 1960, the Fund was closed to new employees. This report, prepared as of July 1, 2011, presents the results of the annual actuarial valuation of the Fund.

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized on the following pages.

Valuation Date	July 1, 2011	July 1, 2010
Participant Data		
Active Members Retired Members and Beneficiaries Total Participants	0 <u>142</u> 142	0 <u>149</u> 149
Annual Compensation Annual Retirement Allowances	\$ 0 993,290	\$ 0 1,048,608
Assets  Market Value of Assets Actuarial Value of Assets	\$ 9,997,650 9,997,650	\$ 11,018,367 11,018,367
Contribution Amounts  Normal Contribution Accrued Liability Contribution	\$ 0 0	\$ 0 0
Total Contribution	\$ 0	\$ 0

The major benefit and contribution provisions of the statute as reflected in the valuation are summarized in Appendix A. There were no changes from the provisions used in the previous valuation.

The actuarial assumptions and methods used for valuing the Fund are summarized in Appendix B. There were no changes in actuarial assumptions and methods since the previous valuation.

The combination of the plan provisions, actuarial assumptions and member and beneficiary data is used to generate the overall required level of employer contributions. The required contribution is developed in Section III F.

The valuation also generates a balance sheet which summarizes in some detail the total present and prospective assets and liabilities of the Fund. A summary comparison of the balance sheets as of July 1, 2010 and July 1, 2011 is set forth in the following table.

### TABLE I COMPARATIVE BALANCE SHEET

	2011	2010
<u>ASSETS</u>		
Market value of assets of Fund	\$ 9,997,650	\$ 11,018,367
Unfunded accrued liability/(surplus)	(4,900,858)	(5,383,343)
Total Assets	\$ 5,096,792	\$ 5,635,024
<u>LIABILITIES</u>		
Present value of benefits to present beneficiaries payable from the Retirement Reserve Fund	\$ 5,096,792	\$ 5,635,024
Present value of benefits to present active members	0	0
Total Liabilities	\$ 5,096,792	\$ 5,635,024

#### SECTION II - EMPLOYEE DATA

The data employed for the valuation was furnished to the actuary by the Division of Pensions and Benefits. Appendix C contains summary tables which present the number and retirement allowances of members classified by age. The following summarizes and compares the Fund membership as of July 1, 2010 and July 1, 2011 by various categories.

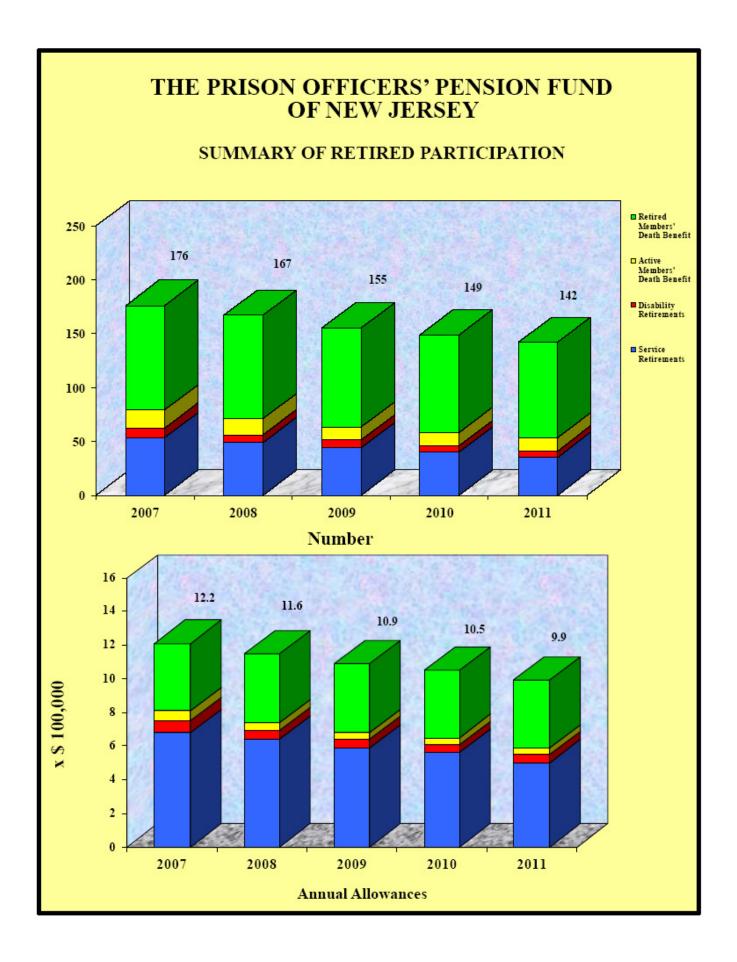
#### **MEMBERSHIP - ACTIVE**

• There have been no active participants in the Plan since July 1, 1994.

#### RETIRED MEMBERS AND BENEFICIARIES

	2011		2	010		
GROUP	Number		Annual llowances	Number	Annual Allowances	
Service Retirements	35	\$	512,622	40	\$	558,834
Ordinary Disability Retirements	4	\$	26,985	4	\$	26,985
Accidental Disability Retirements	2	\$	19,649	2	\$	19,649
Active Members' Death Benefits	12	\$	41,994	12	\$	41,994
Retired Members' Death Benefits	89	\$	392,040	91	\$	401,146

Graphic presentations of the statistical data on membership for the five preceding years are shown on the following page.



#### SECTION III - ASSETS, LIABILITIES AND CONTRIBUTIONS

#### A. Market Value of Assets as of June 30, 2011

	1.	Assets		
		<ul> <li>a. Cash</li> <li>b. Investment Holdings</li> <li>c. Accrued Interest</li> <li>d. Pension Adjustment Receivable</li> <li>e. Total</li> </ul>	\$ 	220,838 9,873,471 325 86,076 10,180,710
	2.	Liabilities		, ,
		<ul> <li>a. Pension Payroll Payable</li> <li>b. Pension Adjustment Payroll Payable</li> <li>c. Withholdings Payable</li> <li>d. Administrative Expense Payable</li> <li>e. Other Accounts Payable</li> <li>f. Total</li> </ul>	\$ 	54,024 93,056 29,984 0 5,996 183,060
	3.	Receivable Contribution	\$	0
	4.	Market Value of Assets as of June 30, $2011 = (1(e)) - (2(f)) + (3)$	\$	9,997,650
В.	Reconciliation of Market Value of Assets from June 30, 2010		e 30, 201	<u>1</u>
	1.	Market Value of Assets as of June 30, 2010	\$	11,018,367
	2.	Increases		
		<ul> <li>a. Members' Contributions @ 6%</li> <li>b. State Appropriations</li> <li>c. Pension Adjustment</li> <li>d. Investment Income</li> <li>e. Total</li> </ul>	\$ \$	0 0 1,064,245 32,429 1,096,674
	3.	Decreases		
		<ul> <li>a. Retirement Allowances</li> <li>b. Benefit Expense – Pension Adjustment</li> <li>c. Administrative Expenses</li> <li>d. Total</li> </ul>	\$ 	1,045,770 1,064,245 7,376 2,117,391
	4			
	4.	Receivable Contribution	\$	0
	5.	Market Value of Assets as of June 30, 2011 = $(1) + (2(e)) - (3(d)) + (4)$	\$	9,997,650

#### C. **Reconciliation of Actuarial Value of Assets and Ledger Assets**

1.	Actuarial Value of Assets (Retirement Reserve Fund)	\$ 9,997,650
2.	Pension Adjustment Fund: A(2)(b) - A(1)(d)	 6,980
3.	Total Ledger Assets	\$ 10,004,630

\$

#### D. **Present Value of Benefits**

2.

3.

4.

5.

6.

#### 1. **Active Members**

a.	Service Retirement	\$ 0
b.	Death Before Retirement	0
c.	Death After Retirement	 0
d.	Total	\$ 0
Serv	ice Retirees	\$ 2,921,551
Disa	bility Retirees	\$ 234,534
Bene	eficiaries	\$ 1,940,707
Tota	d = (1(d)) + (2) + (3) + (4)	\$ 5,096,792

#### **Tracking of Unfunded Accrued Liability/(Surplus)** E.

1.	Unfunded Accrued Liability/(Surplus) as of July 1, 2010	\$ (5,383,343)
2.	Interest on (1) at 5.00%	(269,167)
3.	Contributions received	0
4.	Interest on (3) at 5.00%	 0
5.	Expected Unfunded Accrued Liability/(Surplus) as of July 1, $2011 = (1) + (2) - (3) - (4)$	\$ (5,652,510)

Actual Unfunded Accrued Liability/(Surplus) as of July 1, 2011 \$

(4,900,858)

#### F. <u>Development of Required Contribution</u>

1.	Present Value of Benefits as of July 1, 2011	\$ 5,096,792
2.	Present Value of Future Contributions:	
	<ul> <li>a. Future State Appropriations</li> <li>b. Future Employee Contributions</li> <li>c. Future State Normal Contributions</li> <li>d. Total</li> </ul>	\$  0 0 0 0
3.	Actuarial Value of Assets as of July 1, 2011	\$ 9,997,650
4.	Actuarial Surplus: $(1) - (2(d)) - (3)$	\$ (4,900,858)
5.	Amortization of Loss/Gain	\$ 0
6.	State Appropriations from prior valuation	\$ 0
7.	State Appropriations Payable July 1, 2012: $(5) + (6)$ ; not less than zero	\$ 0

#### G. Fund Projection

The following is an estimate of the expected receipts and disbursements for the Fund over the next year. The projection is based on the assumptions set forth in Appendix B. All receipts and disbursements are assumed to occur mid-year.

Year	July 1 Fund Balance	State Appropriations	Member Contributions	Pension Payments	Interest
2011	\$ 9,997,650	\$ 0	\$ 0	\$ 939,979	\$ 476,670

#### SECTION IV - COMMENTS CONCERNING THE VALUATION

The variation in liabilities and contributions reflects the Fund's actual experience during the year. The Fund experienced a net actuarial loss during the year that ended June 30, 2011.

The actuarial loss was due to the investment return on actual Fund assets, which was less than expected.

There was also an actuarial loss due to retired, disabled members and beneficiaries of deceased members who are living longer than expected.

For valuation purposes, a 5.00% per annum rate of return on investments was assumed. The actual return on the Fund's actuarial value of assets was approximately 0.31% for the period July 1, 2010 through June 30, 2011.

The following outlines the effect of the primary actuarial experience components:

•	Investment Loss (Gain)	\$ 492,481
•	Other Loss (Gain), including mortality, changes in	
	employee data	 259,171
•	Total Actuarial Loss (Gain)	\$ 751.652

#### SECTION V - ACCOUNTING INFORMATION

Statement No. 5 of the Governmental Accounting Standards Board, issued November 1986, established standards of disclosure of pension information by public retirement systems. Statement No. 25 of the Governmental Accounting Standards Board, issued November 1994, established financial reporting standards for defined benefit pension plans and for the notes to the financial statements of defined contribution plans of state and local governmental liabilities and superseded Statement No. 5 effective for periods beginning after June 15, 1996. Statement No. 27, Accounting for Pensions by State and Local Governmental Employers superseded Statement 5 for employers participating in pension plans and is effective for periods beginning after June 15, 1997. Statement No. 50, Accounting for Pensions by State and Local Governmental Employers amends the note disclosure and required supplementary information (RSI) of Statements No. 25 and No. 27 to conform with applicable changes adopted in Statements No. 43 and 45 for Postemployment Benefit Plans other than Pension Plans. Statement No. 50 is intended to improve the transparency of reported information about pensions by State and Local governmental plans and employers. Statement No. 50 is effective for periods beginning after June 15, 2007.

The information required by Statements No. 25, No. 27 and No. 50 is presented in the following tables. These include the development of the Annual Required Contribution (ARC), the development of the Net Pension Obligation (NPO), the Schedule of Funding Progress and the Schedule of Employer Contributions.

#### (A) <u>Development of the Annual Required Contribution (ARC) as of June 30, 2013:</u>

1.	Actuarial Value of Plan Assets as of June 30, 2011	
	(a) Valuation Assets as of June 30, 2011	\$ 9,997,650
	(b) Adjustment for Receivable Contributions included in (a)	 0
	(c) Valuation Assets as of June 30, 2011 for GASB Disclosure = (a) - (b)	\$ 9,997,650
2.	Actuarial Accrued Liability as of June 30, 2011 for GASB Disclosure	\$ 5,096,792
3.	Unfunded Actuarial Accrued Liability/(Surplus) as of June 30, 2011 = (2) – (1 (c))	\$ (4,900,858)
4.	Amortization of Unfunded Actuarial Accrued Liability/(Surplus) over 1 year	\$ (4,900,858)
5.	Normal Cost as of June 30, 2011	\$ 0
6.	Annual Required Contribution as of June 30, 2013	
	(a) Annual Required Contribution as of June 30, $2011 = (4) + (5)$	\$ (4,900,858)
	(b) Interest Adjustment to June 30, 2013	 (502,338)
	(c) Annual Required Contribution as of June 30, 2013 = (a) + (b)	\$ (5,403,196)
<b>(B)</b>	Development of the Net Pension Obligation (NPO) as of June 30, 2013:	
1.	Annual Required Contribution as of June 30, 2013	\$ (5,403,196)
2.	Interest on Net Pension Obligation	(296,757)
3.	Adjustment to Annual Required Contribution	 6,231,893
4.	Annual Pension Cost = $(1) + (2) + (3)$	\$ 531,940
5.	Expected Employer Contributions For Fiscal Year 2013	\$ 0
6.	Increase in Net Pension Obligation = $(4) - (5)$	\$ 531,940
7.	Net Pension Obligation at June 30, 2012	 (5,935,136)
8.	Net Pension Obligation at June 30, 2013 $= (6) + (7)$	\$ (5,403,196)

#### (C) Schedule of Funding Progress

							Unfunded
							Actuarial
							Accrued Liability
							as a Percentage
		Actuarial		Unfunded			of Covered
Actuarial	Actuarial	Accrued		Actuarial	Funded	Covered	Payroll
Valuation	Value of Assets	Liability	Ac	crued Liability	Ratio	Payroll	<u>(b-a)</u>
Date	(a)	<b>(b)</b>		<b>(b-a)</b>	(a/b)	(c)	C
6/30/06	\$ 14,014,718	\$ 8,236,295	\$	(5,778,423)	170.2%	N/A	N/A
6/30/07	\$ 13,499,361	\$ 7,378,386	\$	(6,120,975)	183.0%	N/A	N/A
6/30/08	\$ 12,890,441	\$ 6,789,017	\$	(6,101,424)	189.9%	N/A	N/A
6/30/09	\$ 11,986,919	\$ 6,136,441	\$	(5,850,478)	195.3%	N/A	N/A
6/30/10	\$ 11,018,367	\$ 5,635,024	\$	(5,383,343)	195.5%	N/A	N/A
6/30/11	\$ 9,997,650	\$ 5,096,792	\$	(4,900,858)	196.2%	N/A	N/A

#### (D) Schedule of Employer Contributions

Fiscal Year	nnual Required Contribution	Employer Contribution	Percentage Contributed
2008	\$ 0	\$ 0	100.0%
2009	\$ 0	\$ 0	100.0%
2010	\$ 0	\$ 0	100.0%
2011	\$ 0	\$ 0	100.0%
2012	\$ 0	\$ 0	100.0%
2013	\$ 0	\$ 0	100.0%

### (E) The information presented in the required supplementary schedules was determined as part of the actuarial valuation. Additional information follows:

Valuation Date June 30, 2011

Actuarial Cost Method Projected Unit Credit

Amortization Method Level Dollar, Closed

Remaining Amortization Period 1 year

Asset Valuation Method Market Value

**Actuarial Assumptions:** 

Investment Rate of Return 5.00%

#### APPENDIX A

#### BRIEF SUMMARY OF THE BENEFIT AND CONTRIBUTION PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

#### Eligibility for Membership

Employees of State penal institutions, employed prior to January 1, 1960 who did not transfer to the Police & Firemen's Retirement System in accordance with Chapter 205 of Public Law 1989. The System no longer accepts new members.

#### 1. Definitions

Plan Year The 12-month period beginning on July 1 and ending on June 30.

Service A year is credited for each year an employee is a member of the

retirement system.

Average Final

Compensation (AFC) Average annual compensation (or base salary) for 3 years of

Service immediately preceding retirement. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

**Accumulated Deductions** 

The sum (without interest) of all required amounts deducted from the compensation of a member or contributed by him or on his

behalf.

#### 2. Benefits

Service Retirements

25 years of service, or age 55 and 20 years of service. The benefit is a life annuity equal to the greater of (A), (B), and (C) below:

- (A) 2% of AFC up to 30 years of service plus 1% for each year in excess of 30 and prior to age 65;
- (B) 50% of final pay; and
- (C) For a member with 25 years of service, 2% of AFC up to 30 years of service plus 1% for each year in excess of 30.

**Vested Retirements** 

Eligible upon termination of employment. Benefits are summarized as follows:

Termination with 10 or more years of service: Benefit is a deferred life annuity equal to 2% of AFC for service up to 30 years plus 1% for service over 30 years.

Termination with less than 10 years of service: Refund of accumulated deductions.

Ordinary Disability Retirement

Permanent and total disability for causes other than as a direct result of a traumatic event occurring during the performance of regular or assigned duties. Benefit is an immediate life annuity equal to 1/2 of AFC.

Accidental Disability Retirement

Permanent and total disabled as a direct result of a traumatic event occurring while performing regular or assigned duties. Benefit is an immediate life annuity equal to 2/3 of AFC.

Death Benefits

Death of member of system. Spouse must be married to member prior to retirement, or at least five years before member's death. Benefit is an annuity equal to 25% of member's AFC plus an additional 15% (25%) for one (two or more) surviving dependent child (children). If there is no spouse or if the spouse dies or remarries, 20% (35%, 50%) of AFC to one (two, three or more) surviving child (children). If there is no surviving spouse or children, 25% (40%) of AFC to one (two) dependent parent(s). The provision for a survivor annuity payable to dependent parents does not apply in the death of a retired member of the system.

Minimum benefits: Minimum spousal annuity is \$1,600 per annum. If no other benefit is payable prior to retirement, the member's beneficiary shall receive the accumulated deductibles.

3. Employee Contributions

Each member contributes 6% of compensation.

#### <u>APPENDIX B</u>

#### OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

<u>VALUATION INTEREST RATE</u>: 5.0% per annum, compounded annually.

<u>DEATHS AFTER RETIREMENT</u>: Representative values of the assumed annual rates of mortality for current retirees are as follows. There has been no provision made for mortality improvement after the valuation date.

Age	Service Retirement	Disability Retirement	Widows
40	.21%	.90%	.56%
45	.34	1.10	.68
50	.56	1.42	.87
55	.90	1.93	1.18
60	1.42	2.72	1.67
65	2.17	3.97	2.43
70	2.75	5.91	3.63
75	4.46	8.91	5.50
80	7.41	13.46	8.39
85	11.48	20.22	12.80

MARRIAGE: Husbands are assumed to be 3 years older than wives.

#### **VALUATION METHOD:**

The unfunded accrued liability (the difference between the present value of benefits and the valuation assets) was determined as of July 1, 1988 and was amortized over the 14-year period beginning July 1, 1989, and ending on July 1, 2002. Each year the amortization payments were adjusted to reflect any experience gains or losses that occurred during the previous plan year. All gains and losses were amortized over the remaining original amortization period. (Without any guidance, we have assumed that any unfunded accrued liability that develops after the July 1, 2001 valuation will be amortized over 1 year.)

#### ASSET VALUATION METHOD

Assets are valued at book value which is equivalent to market value.

#### APPENDIX C

#### TABULATIONS USED AS A BASIS FOR THE 2011 VALUATION

The following tables give the number and retirement allowances of retired members and beneficiaries classified by age as of July 1, 2011.

TABLE 1

## THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JULY 1, 2011

#### SERVICE RETIREMENTS

			MEN		WOMEN			
AGE	NUMBER		MBER AMOUNT		NUMBER	AMOUNT		
	77	1	\$	25,660				
	79	3		51,518				
	80	2		37,393				
	81	4		77,561				
	82	4		43,676				
	83	3		39,033				
	85	2		20,505				
	86	1		8,710				
	87	1		9,010				
	88	3		48,061				
	89	3		66,874				
	90	1		15,851				
	91	1		15,845				
	92	4		39,945	1	\$	7,389	
	94	1		5,591				
TOTAL		34	\$	505,233	1	\$	7,389	

TABLE 2

## THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JULY 1, 2011

#### ORDINARY DISABILITY RETIREMENTS

			MEN		WOMEN			
AGE		NUMBER	I	AMOUNT	NUMBER	AMOUNT		
	76	1	\$	7,701				
	79	1		7,655				
	82	1		5,716				
	83	1		5,913				
TOTAL	,	4	\$	26,985				

.

TABLE3

# THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JULY 1, 2011

#### ACCIDENTAL DISABILITY RETIREMENTS

			MEN		WOMEN		
AGE		NUMBER		AMOUNT	NUMBER	AMOUNT	
	83 85	1 1	\$	7,258 12,391			
TOTAL		2	\$	19,649			

TABLE 4

### THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES DISTRIBUTED BY AGEAS OF JULY 1, 2011

#### ACTIVE MEMBERS' DEATH BENEFITS

WOMEN MEN AGE NUMBER **AMOUNT** NUMBER **AMOUNT** 58 1 \$ 5,174 77 1 \$ 2,976 78 1 7,622 79 1 3,535 81 1 2,798 82 5,431 83 1 2,428 86 9,359 2,671 TOTAL 1 \$ 2,976 11 39,018

#### TABLE 5

# THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES DISTRIBUTED BY AGE AS OF JULY 1, 2011

#### RETIRED MEMBERS' DEATH BENEFITS

		MEN		WOMEN			
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT			
,	70		1	\$ 6,210			
,	71		1	7,533			
,	73		1	3,894			
	75		1	9,745			
,	76		2	6,420			
,	77		2	10,687			
,	78		2	10,650			
,	79		1	4,758			
	80		3	15,769			
	81		3	13,674			
	82		4	14,281			
	83		7	42,460			
	84		7	27,510			
	85		3	11,232			
	86		8	36,531			
	87		7	48,470			
	88		6	20,375			
	89		5	20,650			
(	90		4	15,404			
	91		5	15,528			
	92		5	14,672			
	93		1	6,952			
	94		2	4,963			
	95		1	5,220			
	96		2	4,708			
	98		1	2,487			
10	00		2	5,600			
10	02		1	4,057			
1	10		1	1,600			
TOTAL			89	\$ 392,040			
101/11			0)	φ 5,2,0π0			