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The Consolidated Police and Firemen's Pension Fund of New Jersey Annual Report of the Actuary

Information Required Under Governmental Accounting Standards Board No. 67 as of June 30, 2016

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CONDUENT
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January 17, 2017

Director of the Division of Pension and Benefits
Division of Pension and Benefits
50 West State Street
One State Street Square
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Trenton, New Jersey 08625-0295

Director:

This valuation provides information concerning the Consolidated Police and Firemen's Pension Fund of New Jersey in accordance with the Governmental Accounting Standards Board (GASB) Statement No. 67. This Statement is an amendment of Statements No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans, and No. 50, Pension Disclosures, effective for plan fiscal years ending June 30, 2014 and later.

We certify that the information contained in this Actuarial Report has been prepared in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information fairly presents the actuarial position of the Consolidated Police and Firemen's Pension Fund of New Jersey in accordance with the requirements of GASB Statement No. 67 as of June 30, 2016.

The Division of Pensions and Benefits may use this report for the review of the operation of the plan and as a source of information for the State financial statements. The report may also be used in the preparation of the plan's audited financial statements.

Use of this report for any other purpose or by anyone other than the staff of the Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Buck to review any statement you wish to make on the results contained in this report. Buck will accept no liability for any such statement made without prior review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this valuation.

In my opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the System and to reasonable long-term expectations.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice and I am available to answer questions about it.

Buck Consultants, LLC

Aaron Shapiro

Aaron Shapiro, FSA, EA, MAAA
Principal, Consulting Actuary

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Summary of Significant Accounting Policies

Method used to value investments. Investments are reported at fair value.

Actuarial cost method. Entry Age Normal – Level Percentage of Pay

Plan Description

Plan administration. The State of New Jersey Division of Pensions and Benefits administers the Consolidated Police and Firemen's Pension Fund of New Jersey (Plan), a cost-sharing multiple-employer defined benefit pension plan that provides pensions for police and firefighters appointed prior to July 1, 1944. The plan was closed to new employees as of July 1, 1944.

Management of the Plan is vested in the Division of Pensions and Benefits in the Department of the Treasury (Division).

Plan membership. Pension plan membership consisted of the following:

	June 30, 2014	June 30, 2015
Inactive members or beneficiaries currently receiving	149	124
Inactive members entitled to but not yet receiving	0	0
Active members	0	0
	149	124

Benefits provided. Please see Section III of the report for a summary of plan provisions.

Contributions. The Division establishes funding of member and beneficiary basic allowances based on an actuarially determined contribution recommended by an independent actuary. Since the plan is closed to new employees, the actuarially determined contribution is calculated as an amount to finance a portion of any unfunded accrued liability. The unfunded accrued liability (the difference between the present value of benefits and the valuation assets) measured as of June 30, 1990 and the accrued liability contribution rate was then determined such that the unfunded accrued liability was to be amortized over a period of 9 years in level installments.

In determining the unfunded accrued liability and the contribution amount, the actuarial value of assets as of June 30, 1990 was set equal 100% of the market value of Plan assets. In subsequent actuarial valuations, the actuarial value of assets has been adjusted to reflect actual contributions and benefit payments, an assumed rate of return on the previous year's assets and current year's cash flow at an annual rate of 2.00% with an adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.

In developing the unfunded accrued liability contribution rate as of June 30, 1991 and subsequent years, the contribution rate has been adjusted to amortize any gains or losses over the remainder of the 9-year period. (Without additional guidance, the actuary assumed that the unfunded accrued liability determined as of June 30, 2015 will be amortized over 1 year.) For the year ended June 30, 2016, the State contributed $148,000 to the plan.

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment is paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L.

2011 suspended the cost of living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law.

Investments

Rate of return. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense (as provided by the Division of Pensions and Benefits) is as follows:

June 30, 2015	June 30, 2016
0.34%	0.50%

Receivables

N/A.

Net Pension Liability

The components of the net pension liability were as follows:

		June 30, 2015		June 30, 2016
Total pension liability	$	10,218,402	$	9,892,635
System fiduciary net position		(2,427,950)		(1,894,928)
Commonwealth's net position	$	7,790,452	$	7,997,707
System fiduciary net position as a percentage of the total pension liability		23.76%		19.15%

Actuarial assumptions

The total pension liability as of fiscal year ending June 30 was determined by rolling forward the plan's total pension liability as of fiscal year beginning July 1 of the previous calendar year to the end fiscal year using the following actuarial assumptions, applied to all periods included in the measurement. All other methods and assumptions used to determine the total pension liability are set forth in Section II.

The actuarial cost method used to develop the total pension liability is the Entry Age Normal Cost - Level Percent of Pay method, as required by GASB Statement No. 67.

Long-Term Expected Rate of Return

The arithmetic mean return on the portfolio was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2016 are summarized in the following table. The capital market assumptions are per Buck’s investment consulting practice for 2016.

Asset Class	**Index**	**Target Allocation***	**Long-Term Expected Real Rate of Return**
Cash	Citigroup 90-Day T-Bills	100.00%	.87%
Assumed Inflation – Mean			3.08%
Assumed Inflation – Standard Deviation			2.59%
Portfolio Arithmetic Mean Return			3.95%
Portfolio Standard Deviation			2.76%
Long-Term Expected Rate of Return:			
- Selected by the State for funding purposes			**2.00%**
- Selected by the State for accounting purposes as of June 30, 2016			**2.85%**

*Based on target asset allocation for 2016.

The discount rate is the single rate that reflects (1) the long-term expected rate of return on Plan investments that are expected to be used to finance the payment of benefits, to the extent that the Plan's fiduciary net position is projected to be sufficient to make projected benefit payments and Plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another scale), to the extent that the conditions for use of the long-term expected rate of return are not met. For the purpose of its report, the State uses the Bond Buyer Go 20-Bond Municipal Bond Index.

Discount rate. The discount rates used to measure the total pension liability were 3.80% as of June 30, 2015 and 2.85% as of June 30, 2016. As discussed with the Division of Pensions and Benefits the State prescribed the use of an expected long-term rate of return based on the Bond Buyer Go 20-Bond Municipal Bond Index of 2.85% in the projection of cash flows in lieu of the 2.00% rate used for funding. Based on these assumptions, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability in accordance with the method prescribed by GASB Statement No. 67. We believe this assumption is reasonable for the purposes of the measurements required by the Statement.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability, calculated using the discount rate of 2.85%, as well as what the State's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (1.85%) or 1-percentage-point higher (3.85%) than the current rate:

	1% Decrease (1.85%)	**Current Discount Rate (2.85%)**	**1% Increase (3.85%)**
Net Pension Liability	$ 8,455,736	$ 7,997,707	$ 7,582,792

Schedules of Required Supplementary Information

Schedule of Changes in the State's Net Pension Liability and Related Ratios

	Increase (Decrease)		
Changes in Net Pension Liability	**Total Pension Liability (a)**	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) - (b)**
Balances as of June 30, 2015	$ 10,218,402	$ 2,427,950	$ 7,790,452
Changes for the year:			
Service cost			
Interest on total pension liability	352,889		352,889
Effect of plan changes			
Effect of economic/demographic (gains) or losses	(71,313)		(71,313)
Effect of assumptions changes or inputs	1,273,909		1,273,909
Benefit payments	(1,881,252)	(1,881,252)	
Administrative expenses		(6,643)	6,643
Member contributions			
Net investment income		10,856	(10,856)
Employer contributions		1,344,017	(1,344,017)
Balances as of June 30, 2016	$ 9,892,635	$ 1,894,928	$ 7,997,707

Plan fiduciary net position as a percentage of the total pension liability	19.15%
Covered-employee payroll as of the July 1, 2015 actuarial valuation	N/A
Net pension liability as a percentage of covered-employee payroll	N/A

Notes to Schedule:

Benefit changes. None.

Changes of assumptions*.* The discount rate changed from 3.80% as of June 30, 2015 to 2.85% as of June 30, 2016. The discount rates as of June 30, 2015 and June 30, 2016 were prescribed by the State.

In addition, the mortality assumption changed (Please refer to the July 1, 2015 Actuarial Valuation report for a discussion regarding the assumptions):

Prior assumption - RP-2000 Combined Healthy Mortality Tables for service retirements and beneficiaries projected on a generational basis from the base year of 2012 using Projection Scale AA. Special mortality tables are used for the period after disability retirement with no provisions made for mortality improvement after the valuation date for disability retirements

Current assumption – RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the Buck Modified MP-2014 projection scale. RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements.

Schedule of State Contributions

	2015	2016
Actuarially determined contribution	$ 0	$ 491,683
Contributions related to the actuarially determined contribution[1]	0	148,000
Contribution deficiency (excess)	$ 0	$ 343,683

1. Excludes $1,568,185 and $1,196,017 paid from the Pension Adjustment Fund for cost-of-living adjustment amounts paid during the fiscal years ending June 30, 2015 and June 30, 2016, respectively.

Notes to Schedule

Valuation date: Actuarially determined contributions are calculated as of the July 1 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the July 1, 2015 actuarial valuation will be made during the fiscal year ended June 30, 2017.

The methods and assumptions used to determine the actuarially determined contributions to the plan are set forth in Section II.

Schedule of Investment Returns

	2015	2016
Annual money-weighted rate of return, net of investment expenses	0.34%	0.50%

Section II – Actuarial Assumptions and Methods

A. Actuarial Assumptions

Investment Rate of Return	2.85% per annum, compounded annually.
Salary Increases	Not applicable
Mortality	RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables. Special mortality tables are used for the period after disability retirement with no provisions made for mortality improvement after the valuation date for disability retirements.
Withdrawal	Not applicable
Disability	Not applicable
Loading for expenses	None
Retirement Age	Not applicable
Asset valuation method	The actuarial value of assets is adjusted to reflect actual contributions and benefit payments, an assumed rate of return on the previous year's assets and current year's cash flow at an annual rate of 2.00% with an adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.
Form of payment	For those participants with listed beneficiaries, the beneficiary allowance was assumed to be the greater of twice the amount contained in the record or the minimum of $4,500/yr. (The information contained in the record has not been updated for the change from 25% to 50% payment to the survivor.) For those participants without listed beneficiaries, 65% were assumed to be married and the beneficiary amount was assumed to be the minimum benefit payable ($4,500/yr.).
Married participants	It is assumed that 100% of all participants in the plan are married. Males are assumed to be 4 years older than females.

B. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial accrued liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year. The unfunded actuarial accrued liability is the actuarial accrued liability on the valuation date less the actuarial value of assets.

The unfunded accrued liability (the difference between the present value of benefits and the valuation assets) measured as of June 30, 1990 and the accrued liability contribution rate was then determined such that the unfunded accrued liability was to be amortized over a period of 9 years in level installments.

In determining the unfunded accrued liability and the contribution rate, the actuarial value of assets as of June 30, 1990 was set equal100% of the market value of Plan assets. For subsequent actuarial valuations, the actuarial value of assets is adjusted to reflect actual contributions and benefit payments, an assumed rate of return on the previous year's assets and current year's cash flow at an annual rate of 2.00% with an adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.

Asset Valuation Method: A five year average of market values with write-up was used. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment is paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L. 2011 suspended the cost of living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law.

Section III – Summary of Plan Provisions

New Jersey Statutes, Title 43, Chapter 16.

Eligibility for Membership

Member of a municipal police department, municipal paid or part-paid fire department or county police department, or a paid or part-paid fire department of a fire district located in a township who has contributed to this pension fund; and who is not covered by the Police and Firemen's Retirement System which became effective on July 1, 1944.

Active Member: Any member who is a policeman, fireman, detective, lineman, driver of police van, fire alarm operator, or inspector of combustibles and who is subject to call for active service as such.

Employee Member: Any member who is not subject to active service or duty.

1. Definitions

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

Service — Service rendered while a member as described above.

Final Compensation — Base salary; not including individual salary adjustments which are granted primarily in anticipation of retirement or additional remuneration for performing temporary duties beyond the regular work day. (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.)

Final Compensation — Compensation received during the last 12 months of service preceding retire-ment or termination of service.

Average Salary — Salary averaged over the last three years prior to retirement or other termination of service.

2. Benefits:

Service Retirement — Mandatory retirement at age 65 with 25 years of service (a municipality may retain the Chief of Police until age 70). Voluntary retirement after 25 years of service for an active member and after age 60 with 25 years of service for an employee member. Benefit is life annuity equal to 60% of final compensation, plus 1% of final compensation for years of service in excess of 25.

Death Benefit — While on duty:

Immediate life annuity equal to 70% of average salary payable to the spouse. If there is no spouse or if the spouse dies or remarries, 20% of final compensation will be payable to one surviving child and 35% (50%) of final compensation will be payable, to two (three) surviving children. If there is no surviving spouse or child, 25% (40%) of final compensation will be payable to one (two) surviving dependent parent(s). The minimum spousal annuity is $4,500 per annum.

While not on duty after retirement:

Life annuity equal to 50% of the member's average salary payable to the spouse, plus 15% (25%) to one (two or more) surviving child (children). If there is no surviving spouse or if the surviving spouse dies or remarries, 20% (35%, 50%) of the member's average salary to one (two, three or more) surviving child (children). In the event that there is no surviving spouse or child, 25% (40%) of the member's average salary will be payable to one (two) dependent parent(s). The minimum spousal annuity is $4,500 per annum.

Ordinary Disability Retirement

Totally and permanently incapacitated from service for any cause other than as a direct result of a traumatic event occurring during the performance of duty. Benefit is an immediate life annuity equal to 1/2 of average salary.

Accidental Disability Retirement

Totally and permanently incapacitated 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 average salary.

Cost-Of-Living Increases

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. Chapter 78, P.L. 2011 suspends the cost of living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law.

3. Contributions

Each active member contributes 7% of his salary to the pension fund.