Actuarial

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January 31, 2011

The Retirement Board
Public School Employees'
 Retirement System of Pennsylvania
P.O. Box 125
Harrisburg, Pennsylvania 17108

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the Public School Employees' Retirement System of Pennsylvania (Retirement System or PSERS) as of June 30, 2010.

The valuation takes into account all of the promised benefits to which members are entitled as of June 30, 2010, including pension and survivor benefits, and as required by the Public School Employees' Retirement Code, 24 Pa. C.S. §8101 et. seq. (Retirement Code) is the basis for the contribution rate for fiscal year 2011/2012.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees. As adopted by the Board of Trustees at their January 2009 meeting, the valuation interest rate was changed to 8.25% for the June 30, 2008 valuation and to 8.00% for all future valuation years.

The actuarial assumptions and methods for financial reporting meet the parameters set forth in Governmental Accounting Standards Board (GASB) Statements No. 25, 43, and 50, and are unchanged from the prior valuation. The actuarial assumptions and methods for GASB 25 disclosure are the same as for pension funding, except that the GASB 25 amortization payment will be determined based on 30-year level-dollar funding. The Health Insurance funding provisions of the Retirement Code differ from the GASB 43 disclosure retirements. For funding purposes the actuarial liability equals the assets in the health insurance account, and a contribution is determined that will assure the solvency of the account through the third fiscal year following the valuation date. For purposes of GASB 43 disclosure the Health Insurance actuarial liability and normal cost requirements have been determined under the entry age actuarial cost method, with 30-year level dollar funding. (The entry age actuarial cost method meets the GASB 43 parameters for determining actuarial liability and normal cost, and is the cost method specified by the Retirement Code for the PSERS pension plan.)

Assets and Membership Data

The Retirement System reported the individual data for members of the Retirement System as of the valuation date to the actuary. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System.

Funding Adequacy
The valuation results determine that the employer contribution rate for fiscal year 2011/2012 is 8.65%. As of June 30, 2010, the total funded ratio of the plan (for Pensions and Health Insurance combined) is 75.1%, based on the accrued liability and actuarial value of assets calculated under the funding requirements of Section 8328 of the Retirement Code.

Financial Results and Membership Data
Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

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 Retirement System calculations, is not known. Retirement System funding and financial accounting rules generally prohibit reflection of changes in assets and underlying economic conditions that occur after the valuation date.

Qualified actuaries completed the valuation in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,

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Principal, Consulting Actuary

Dana Spangher, FSA, MAAA, EA
Principal, Consulting Actuary

Edward Quinn, MAAA, EA
Director, Retirement Actuary

EXECUTIVE SUMMARY

This report presents the actuarial valuation as of June 30, 2010 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2011/2012, which is 8.65%.
- The total funded ratio of the plan determined as of June 30, 2010 under the funding requirements of Section 8328 of the Retirement Code, which is 75.1% based on the accrued liability and the actuarial value of assets for Pensions and Health Insurance as of that date.
- The determination of the actuarial experience as of June 30, 2010, which is a loss of $3.467 billion.
- Annual disclosures as of June 30, 2010 as required by Statements No. 25, 43, and 50 of the Governmental Accounting Standards Board.

The valuation was completed based upon membership and financial data submitted by the Retirement System. Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are included in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

CHANGES SINCE LAST YEAR

Legislative and Administrative Changes

The valuation was completed based upon the following legislative changes:

- The valuation reflects Act 2010-46 (Act 46). Act 46 directed the Public School Employees' Retirement Board to recertify the employer contribution rate for the Fiscal Year which ends June 30, 2011 from 8.22% to 5.64%, with 5% consisting of the pension component of the rate and .64% consisting of the premium assistance component of the rate.
- The valuation also reflects the following benefit and funding reform provisions of Act 2010-120 (Act 120):

a. Benefit reforms:

1. Establish a new class of membership ("Class T-E"). Any employee who becomes a member of the Retirement System after June 30, 2011 would become a Class T-E member. A Class T-E member would be eligible for an annuity based upon an annual benefit accrual rate of 2% and would have a corresponding employee contribution requirement equal to 7.5% of compensation;
2. Establish an optional new class of membership ("Class T-F"). Any employee who becomes a member of the Retirement System after June 30, 2011 would have the option of electing Class T-F membership within 45 days of becoming a member. A Class T-F member would be eligible for an annuity based upon an annual benefit accrual rate of 2.5% and would have a corresponding employee contribution requirement equal to 10.3% of compensation;
3. Increase the superannuation requirements for Class T-E and Class T-F members to i) age 65 with a minimum of three years of service credit, or ii) any combination of age and service that totals 92 with at least 35 years of credited service;
4. Increase the withdrawal eligibility requirement for Class T-E and Class T-F members to ten years of service credit;
5. Class T-E and Class T-F can not elect to receive a lump sum payment of member contributions;

6. Establish a "shared-risk" employee contribution rate for Class T-E and Class T-F members. Members benefit when investments of the fund are doing well and share some of the risk when investments underperform. The member contribution rate will stay within the specified range allotted for Class T-E or Class T-F, but could increase or decrease every three years starting July 1, 2015 depending on investment performance. The member contribution rate can never go below the base rate of 7.5% for Class T-E members and 10.3% for Class T-F members, nor above 9.5% for Class T-E members and 12.3% for Class T-F members. If the investment rate of return (less investment fees) is equal to or exceeds the assumed rate of return based on the prior ten-year period, the member contribution rate will decrease by .5%. Likewise, the member contribution rate will increase by .5% if the investment rate of return (less investment fees) during the ten-year period is 1.0% or more below the assumed rate of return. If the Retirement System is fully funded at the time of the comparison, the member contribution rate reverts back to the base rate for the Class. There shall be no increase in the member contribution rate if there has not been an equivalent increase in the employer contribution rate over the previous three-year period. Until a full ten-year look back is available, the investment return measurement period will begin on July 1, 2011;

7. Require Class T-E and Class T-F members who purchase most types of nonschool or non-state service credit (other than intervening military service) to pay an amount equal to the full actuarial cost of the service purchase;

8. Limit the maximum annual retirement benefit of Class T-E and Class T-F members to not more than 100% of final average salary; and

9. Class–E and Class T-F members have a one-year period from date of membership to purchase Non-Qualifying Part-Time Service.

b. Funding reforms effective with the June 30, 2010 valuation:

1. Extend from five years to ten years the asset smoothing period over which the Retirement System's investment gains and losses are recognized;

2. Re-amortize the unfunded actuarial accrued liability as of the June 30, 2010 valuation, including the cost of Act 120, over a 24-year period with the amortization payments determined as a level percentage of pay. Future valuation experience gains or losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, will be amortized over a 24-year period as a level percentage of pay. Future increases in accrued liability enacted by legislation after June 30, 2010 will be funded over a 10-year period as a level percentage of pay;

3. Modify the employer pension contribution requirements by imposing limits ("collars") on the rate at which employer contributions may rise from year to year. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014, the pension contribution rate can be no more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate; and

4. Beginning with the fiscal year in which the actuarially required contribution rate is less than the collared rate, the final contribution rate will be the actuarially determined contribution rate, but not less than the employer normal contribution rate.

Actuarial Assumptions and Methods

The actuarial assumptions and methods are outlined in Table 11.

Contribution Rates

The results of the valuation as of June 30, 2010 determine the employer contribution rate for fiscal year 2011/2012. The calculated employer contribution rate for the 2011/2012 fiscal year is 8.65%, and the Board of Trustees certified this rate at their December 2010 meeting. This rate consists of an 8.00% pension rate (fiscal year 2010/2011 rate of 5.00% plus the Act 120 3.00% collar) plus a 0.65% health insurance contribution rate.

The average contribution rate payable by the members is 7.37%. Effective January 1, 2002, the employee contribution rate for members who elected to have prior school service and intervening military service converted to Class T-D service increased by 1.25% to 7.50%. Anyone who enrolls after June 30, 2001 and before July 1, 2011 is automatically a member of Class T-D. The average member contribution rate of 7.37% is a pay-weighted average of member rates that vary based on date of hire and based on Class T-D membership. Any employee who becomes a member after June 30, 2011 would become a Class T-E member or, alternatively, elect to become a Class T-F member. The base contribution rate for Class T-E members is 7.50% of compensation. The base contribution rate for Class T-F members is 10.30% of compensation. Class T-E and Class T-F members are subject to a "shared-risk" employee contribution rate.

Reasons for Change in the Rate Calculated by the Actuary

The employer contribution rate calculated by the actuary increased from 5.64% for fiscal year 2010/2011 to 8.65% for fiscal year 2011/2012. The reconciliation of the employer contribution rates by source is as follows:

• FY2010/2011 Act 46 final rate	5.64%
• Deferral of FY 2011 pension contribution due to Act 46	2.58
• FY 2010 /2011 rate prior to Act 46	8.22%
• Increase due to change in normal rate	0.04
• Net increase due to payroll growth and liability experience	0.40
• Increase due to actuarial loss on assets	1.94
• Increase due to Act 120 funding reforms (before 3% collar)	8.31
• Deferral of FY 2012 pension contribution due to Act 120 3% collar	(10.27)
• Increase due to change in health insurance contribution rate	0.01
• Final FY 2011/2012 employer contribution rate	8.65%

Summary of Principal Results

Summarized below are the principal financial results for the Public School Employees' Retirement System based upon the actuarial valuation as of June 30, 2010. Comparable results from the June 30, 2009 valuation are also shown.

Item	June 30, 2010	June 30, 2009
Demographics		
Active Members		
• Number	282,041	279,701
• Average Annual Pay	$ 45,344	$ 44,779
Annuitants		
• Number	184,934	177,963
• Average Annual Benefit Payment	$ 23,466	$ 22,456
Contribution Rates (as a Percentage of Payroll)	(Fiscal Year 2011/2012)	(Fiscal Year 2010/2011)
Employer Contribution Rate:		
• Total Pension Rate Calculated by Actuary	18.27%	7.58%
• Act 46 Recertification of Fiscal Year 2011 Employer Pension Rate	N/A	5.00
• Act 120 Fiscal Year 2012 Employer Pension Rate After Application of Collar	8.00	N/A
• Health Insurance Contribution Rate	0.65	0.64
• Total Contribution Rate	8.65%	5.64%
• Total Contribution Rate Certified by Board	8.65%	5.64%
Member Average Contribution Rate:	7.37	7.34
• Total Rate	16.02%	12.98%
Actuarial Funded Status*		
• Accrued Liability	$ 79,122.3 Mil	$ 75,625.9 Mil
• Actuarial Value of Assets	59,423.7	59,886.7
• Unfunded Accrued Liability	$ 19,698.6	$ 15,739.2
• Funded Ratio	75.1%	79.2%
* Pensions and Health Insurance combined		

Funded Ratio

The financing objective of the Retirement System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method; and

- Liquidate the unfunded accrued liability based on level percentage of pay amortization schedules required by the Retirement Code as amended by Act 2010-120, i.e., a schedule of 24 years for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability will be funded over 10 years.

- As directed by Act 2010-120, use pension rate collars to moderate the rise of annual employer pension contribution rates to reach the full actuarially determined contribution funding level in a budgetarily sound manner and within a financially responsible period of time.

The total contribution rate of 8.65% of payroll payable by employers, when taken together with the contributions payable by the members, current assets, and expected future asset returns, is sufficient to achieve the financing objective.

The Retirement System's total funded ratio on this funding basis is measured by comparing the actuarial value of assets (based on a phased-in 10-year moving average market value) with the accrued liability. The accrued liability for pensions is the present value of benefits accumulated to date under the Retirement System's funding method and reflects future pay increases for active employees. The accrued liability for Health Insurance equals the assets in the Health Insurance account.

On this basis, the Retirement System's total funded ratio (for Pensions and Health Insurance combined) is 75.1% as of June 30, 2010. This funded ratio is based on an actuarial value of assets of $59.4 billion and an accrued liability of $79.1 billion. The funded ratio for Pensions alone is also 75.1% as of June 30, 2010, based on an actuarial value of assets of $59.3 billion, and an accrued liability of $79.0 billion.

Reasons for Change in the Total Funded Ratio

The total funded ratio decreased from 79.2% as of June 30, 2009 to 75.1% as of June 30, 2010. This decrease is primarily due to the actuarial value of assets loss that occurred during the year. There was also a net actuarial experience loss.

Five-Year History of Total Funded Ratio*

($ Amounts in Millions)

Valuation as of June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2010	$ 79,122.3	$ 59,423.7	$ 19,698.6	75.1%
2009	75,625.9	59,886.7	15,739.2	79.2
2008	70,941.4	61,017.9	9,923.5	86.0
2007	66,593.1	57,155.1	9,438.0	85.8
2006	64,720.1	52,557.5	12,162.6	81.2

* For Pensions and Health Insurance (under the funding provisions of the Retirement Code)

TABLE 1

SUMMARY OF RESULTS OF ACTUARIAL VALUATION AS OF JUNE 30, 2010

($ Amounts in Thousands)

Item	June 30, 2010	June 30, 2009
Member Data		
1. Number of Members		
a) Active Members	282,041	279,701
b) Inactive Members and Vestees	111,931	103,805
c) Annuitants, Beneficiaries and Survivor Annuitants	184,934	177,963
d) Total	578,906	561,469
2. Annualized Salaries ($ Amounts in Thousands)	$ 12,788,847	$ 12,524,593
3. Annual Annuities ($ Amounts in Thousands)	$ 4,339,639	$ 3,996,288
Valuation Results		
4. Present Value of Future Pension Benefits		
a) Active Members	$ 57,927,025	$ 57,954,419
b) Inactive Members and Vestees	1,261,485	930,887
c) Annuitants, Beneficiaries and Survivor Annuitants	40,284,383	37,112,318
d) Total	$ 99,472,893	$ 95,997,624
5. Present Value of Future Pension Normal Cost		
a) Active Members	$ 9,960,432	$ 9,879,309
b) Employer	10,507,033	10,597,579
c) Total	$ 20,467,465	$ 20,476,888
6. Pension Accrued Liability		
a) Active Members (4a) - (5c)	$ 37,459,560	$ 37,477,531
b) Inactive Members and Vestees	1,261,485	930,887
c) Annuitants, Beneficiaries and Survivor Annuitants	40,284,383	37,112,318
d) Total	$ 79,005,428	$ 75,520,736
7. Health Insurance Assets for Premium Assistance	$ 116,831	$ 105,114
8. Total Accrued Liability for Funding (6) + (7)	$ 79,122,259	$ 75,625,850
9. Actuarial Value of Assets	$ 59,423,679	$ 59,886,689
10. Funded Status (9) / (8)	75.1 %	79.2 %
11. Unfunded Accrued Liability (8) - (9)	$ 19,698,580	$ 15,739,161
12. Total Normal Cost Rate	15.49 %	15.42 %
13. Member Contribution Rate	7.37 %	7.34 %
14. Employer Normal Cost Rate (12) - (13)	8.12 %	8.08 %
Employer Annual Funding Requirement	**Fiscal 2011/2012**	**Fiscal 2010/2011**
15. Employer Contribution Rate Calculated by Actuary		
a) Normal	8.12 %	8.08 %
b) Unfunded Accrued Liability	10.15	(0.50)
c) Preliminary Pension Rate	18.27 %	7.58 %
d) Act 46 Recertification of Fiscal Year 2011 Employer Pension Rate	N/A	5.00
e) Act 120 Fiscal Year 2012 Employer Pension Rate Collar	8.00	N/A
f) Health Insurance	0.65	0.64
g) Total Rate	8.65 %	5.64 %

TABLE 2

SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE AS OF JUNE 30, 2010

($ Amounts in Thousands)

	Funding Period (Years)	Beginning July 1	Initial Liability	7/1/2010 Outstanding Balance	Annual Payment Amount	Annual Payment Percent *
1. Amortization of:						
a) Act 120 Fresh Start Unfunded Accrued Liability and Asset Method Change	24	2011	$ 16,279,283	$ 16,279,283	$ 1,184,981	8.40 %
b) 2010 Experience	24	2011	3,419,297	3,419,297	247,938	1.75 %
Total Amortization Payments				$ 19,698,580	$ 1,432,919	10.15 %
2. Employer Normal Cost Rate						8.12 %
3. Preliminary Pension Rate (1) + (2)						18.27 %
4. Act 120 Fiscal Year 2012 Employer Pension Rate Collar						8.00 %
5. Health Insurance Rate						0.65 %
6. Final Total Employer Contribution Rate Calculated by Actuary (4) + (5)						8.65 %

* Based on Estimated Employer Payroll for Fiscal Year Ending 2012 of $ 14,112,000.

TABLE 3

DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE FOR FISCAL YEAR 2011/2012

($ Amounts in Thousands)

Item				
1. June 30, 2010 Balance in Health Insurance Account				$ 116,831
2. Estimated Fiscal 2010/2011 Contribution				
(a) Contribution Rate Certified in 2009 Valuation				0.64%
(b) Estimated Fiscal 2010/2011 payroll				$ 13,510,000
(c) Estimated Contribution = (a) x (b)				$ 86,464
3. Estimated Number of Annuitants who:			Are Eligible	Elect Coverage
(a) Fiscal 2010/2011			118,200	78,012
(b) Fiscal 2011/2012			120,800	79,728
(c) Fiscal 2012/2013			123,400	81,444
4. Estimated Disbursements:	Administration		Assistance	Total
(a) Fiscal 2010/2011	$ 2,206		$ 93,614	$ 95,820
(b) Fiscal 2011/2012	2,220		95,674	97,894
(c) Fiscal 2012/2013	2,309		97,733	100,042
(d) Total	$ 6,735		$ 287,021	$ 293,756
5. Required Fiscal 2011/2012 Contribution (4d) - (1) -(2c)				$ 90,461
6. Required Health Insurance Contribution Rate				
(a) Estimated 2011/2012 Payroll				$ 14,112,000
(b) Required Health Insurance Contribution Rate (rounded up)			(5) / (6a)	0.65%

Notes:

1. Current estimates of fiscal 2010/2011 membership payroll and administrative expenses, and of fiscal 2011/2012 administrative expenses, were provided by PSERS staff.
2. 66% of eligible annuitants are assumed to elect coverage.
3. Premium Assistance payments equal $100 per month per eligible annuitant.

TABLE 4

SUMMARY OF MARKET VALUE OF PLAN ASSETS
AS OF JUNE 30, 2010
($ Amounts in Thousands)

Market Value	
1. Market Value of Assets as of June 30, 2009	$ 43,100,594
2. Contributions During Fiscal 2009/2010	1,590,081
3. Disbursements During Fiscal 2009/2010	5,075,868
4. Investment Return During Fiscal 2009/2010	
a) Investment Return (Net of Investment Expenses)	$ 6,114,548
b) Administrative Expenses	14,049
c) Investment Return After Expenses (a) - (b)	$ 6,100,499
5. Market Value of Assets as of June 30, 2010 (1) + (2) - (3) + (4c)	$ 45,715,306
6. Rate of Return (per Wilshire)	14.59 %
Asset Allocation by Account	
1. Members' Savings Account	$ 11,850,031
2. Annuity Reserve Account	40,284,383
3. State Accumulation Account	(6,535,939)
4. Health Insurance Account	116,831
5. Total (1) + (2) + (3) + (4)	$ 45,715,306

TABLE 5

DERIVATION OF ACTUARIAL VALUE OF ASSETS
AS OF JUNE 30, 2010*
($ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2010 — $ 45,715,306

2. Determination of Deferred Gain (Loss)

Fiscal Year	Return on Assets: Actual	Expected	Difference	% Deferred#	Deferred Amount
2009/2010	$ 6,100,499	$ 4,651,504	$ 1,448,995	90.00%	$ 1,304,096
2008/2009	(16,237,298)	4,900,688	(21,137,986)	71.11%	(15,031,457)
2007/2008	(1,816,980)	4,728,472	(6,545,452)	52.50%	(3,436,362)
2006/2007	12,658,871	4,359,054	8,299,817	34.29%	2,845,652
2005/2006	7,901,068	4,242,878	3,658,190	16.67%	609,698
					$ (13,708,373)

3. Actuarial Value of Assets (1) - (2) — $ 59,423,679

4. Actuarial Rate of Return ** — 3.09%

* The amounts reported include assets for both Pension and Health Insurance

** The actuarial rate of return is the investment return based on the change in the actuarial value of assets from the June 30, 2009 valuation to the June 30, 2010 valuation (prior to Act 120 method change).

The percentage amounts shown are rounded. The corresponding Deferred Amounts reflect the use of unrounded percentage amounts.

TABLE 6

ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY*
AS OF JUNE 30, 2010

($ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at June 30, 2009	$ 15,739,161
2. Interest Credit to June 30, 2010	$ 1,287,104
3. Contributions Toward Unfunded Accrued Liability	(479,578)
4. Change due to Effect of 4% Floor on FY 2010 Pension Contribution	(47,726)
5. Expected Unfunded Accrued Liability at June 30, 2010 (1) + (2) - (3) + (4)	$ 17,458,117
6. Actual Unfunded Accrued Liability at June 30, 2010	$ 19,698,580
7. Increase (Decrease) from Expected (6) - (5)	$ 2,240,463
8. Reasons for Increase (Decrease)	
(a) Experience Losses (Gains)	
(i) Loss from Investment Return on Actuarial Value of Assets	$ 2,855,287
(ii) Loss from New Entrants and Pickups	247,891
(iii) Loss from Salary Increases Greater than Expected	42,030
(iv) Loss from Mortality Experience	386,286
(v) Loss from Vested Termination Experience (Retirement/Disability/Termination)	111,228
(vi) Gain from Non-vested Termination Experience	(239,456)
(vii) Loss from Data/Miscellaneous	63,758
Subtotal	$ 3,467,024
(b) Act 120 Change in Asset Averaging Period	$ (1,226,561)
(c) Grand Total	$ 2,240,463

* The amounts reported include assets and liabilities for Pensions only.

TABLE 7

SCHEDULE OF FUNDING PROGRESS FOR PENSIONS*
GASB STATEMENT NO. 25 DISCLOSURE

($ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2010	$ 59,306,848	$ 79,005,428	$ 19,698,580	75.1 %	$ 12,788,847	154.0 %
2009	59,781,575	75,520,736	15,739,161	79.2	12,524,593	125.7
2008	60,922,157	70,845,637	9,923,480	86.0	11,921,469	83.2
2007	57,057,838	66,495,870	9,438,032	85.8	11,410,257	82.7
2006	52,464,726	64,627,361	12,162,635	81.2	11,419,049	106.5
2005	51,122,156	61,129,444	10,007,288	83.6	10,527,668	95.1

* The amounts reported above include assets and liabilities for Pensions.

SCHEDULE OF FUNDING PROGRESS
FOR POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS*
GASB STATEMENT NO. 43 DISCLOSURE

($ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2010	$ 116,831	$ 1,162,219	$ 1,045,388	10.1 %	$ 12,788,847	8.2 %
2009	105,114	1,159,055	1,053,941	9.1	12,524,593	8.4
2008	95,785	1,133,011	1,037,226	8.5	11,921,469	8.7
2007	97,292	1,058,092	960,800	9.2	11,410,257	8.4
2006	92,777	1,056,154	963,377	8.8	11,419,049	8.4

* The amounts reported above include assets and liabilities for Health Insurance Premium Assistance. The health insurance liabilities for GASB 43 disclosure have been calculated under the entry age normal cost method, which provides liabilities that differ from those determined under the funding requirements of the Retirement Code.

TABLE 8a

SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR PENSIONS
GASB STATEMENT NO. 25 DISCLOSURE

($ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2010	$ 1,928,278	$ 527,212	27 %
2009	1,761,295	503,227	29
2008	1,852,238	753,532	41
2007	1,708,821	659,545	39
2006	1,328,373	456,878	34
2005	945,107	431,556	46

The Annual Required Contribution (ARC) presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (i.e., the ARC for the fiscal year ended June 30, 2010 was determined by the valuation completed as of June 30, 2008 which was based on an 8.25% interest rate).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2010
Actuarial Cost Method:	Entry Age
Amortization Method:	Level dollar open
Remaining Amortization Period:	30 Years
Asset Valuation Method:	10-year smoothed market

Actuarial Assumptions:

- Investment Rate of Return *	8.00%
-Projected Salaried Increases *	6.00%

* Includes Inflation at:	3.25%

TABLE 8b

SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS GASB STATEMENT NO. 43 DISCLOSURE

($ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2010	$ 117,187	$ 102,703	88 %
2009	109,531	92,493	84
2008	101,352	81,317	80
2007	94,970	86,763	91

The Annual Required Contribution (ARC) beginnning with the fiscal year ended June 30, 2009 was determined as part of the actuarial valuation as of two years prior to the date indicated (i.e., the ARC for the fiscal year ended June 30, 2010 was determined by the valuation completed as of June 30, 2008, which was based on an 8.25% interest rate). Prior to that, the ARC was determined as part of the actuarial valuation as of one year prior to the dates indicated.

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2010
Actuarial Cost Method:	Entry Age
Amortization Method:	Level dollar open
Remaining Amortization Period:	30 Years
Asset Valuation Method:	Market

Actuarial Assumptions:

- Investment Rate of Return *	8.00%
- Projected Salaried Increases *	6.00%

* Includes Inflation at:	3.25%

TABLE 9

SOLVENCY TEST
COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND ACTUARIAL VALUE OF ASSETS

($ Amounts in Thousands)

PENSIONS

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets (1)	(2)	(3)
2010	$ 11,850,031	$ 40,284,383	$ 26,871,014	$ 59,306,848	100 %	100 %	27 %
2009	11,087,345	37,112,318	27,321,073	59,781,575	100	100	42
2008	10,532,683	34,617,953	25,695,001	60,922,157	100	100	61
2007	10,183,433	31,603,788	24,708,649	57,057,838	100	100	62
2006	9,571,668	29,117,164	25,938,529	52,464,726	100	100	53
2005	9,116,347	27,051,245	25,058,989	51,219,293	100	100	60

POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets (1)	(2)	(3)
2010	$ 0	$ 767,587	$ 394,632	$ 116,831	N/A	15 %	0%
2009	0	759,891	399,164	105,114	N/A	14	0
2008	0	749,070	383,941	95,785	N/A	13	0
2007	0	684,677	373,415	97,292	N/A	14	0
2006	0	684,435	371,719	92,777	N/A	14	0

TABLE 10

HISTORY AND PROJECTION OF CONTRIBUTION RATES AND FUNDED RATIOS[1]

Fiscal Year Ending June	Appropriation Payroll (thousands)	Contribution Rates[2]							Funded Ratio
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension	Employer Health Insurance	Total Employer	
2000	$ 8,939,598	5.72 %	6.40 %	(2.04) %	4.36 %	4.36 %	0.25 %	4.61 %	123.8 %
2001	9,414,884	5.77	6.29	(4.65)	1.64	1.64	0.30	1.94	114.4
2002[3]	9,378,944	6.43	5.63	(6.05)	(0.42)	0.00	1.09	1.09	104.8
2003[4]	9,652,881	7.10	7.20	(10.03)	1.00	0.18	0.97	1.15	97.2
2004	10,030,705	7.08	7.25	(4.27)	2.98	2.98	0.79	3.77	91.2
2005[5]	11,062,589	7.12	7.48	(7.10)	0.38	4.00	0.23	4.23	83.7
2006	11,505,093	7.16	7.61	(4.28)	3.33	4.00	0.69	4.69	81.2
2007[6]	11,821,951	7.21	6.62	(0.95)	5.67	5.72	0.74	6.46	85.8
2008	12,881,244	7.25	6.68	(0.24)	6.44	6.44	0.69	7.13	86.0
2009	12,500,000	7.29	6.68	(3.37)	3.31	4.00	0.76	4.76	79.2
2010[7]	12,899,000	7.32	7.35	(3.72)	3.63	4.00	0.78	4.78	**75.1**
2011[7 8]	13,510,000	7.34	8.08	(0.50)	7.58	5.00	0.64	5.64	71.4
2012[9]	**14,112,000**	**7.37**	**8.12**	**10.15**	**18.27**	**8.00**	**0.65**	**8.65**	68.0
2013[9]	14,565,146	7.39	8.05	11.28	19.33	11.50	0.69	12.19	64.9
2014[9]	15,031,927	7.40	7.72	12.98	20.70	16.00	0.69	16.69	62.5
2015[9]	15,528,583	7.42	7.42	14.53	21.95	20.50	0.68	21.18	60.8
2016	16,058,316	7.43	7.14	15.86	23.00	23.00	0.66	23.66	59.3
2017	16,624,603	7.44	6.89	16.96	23.85	23.85	0.65	24.50	57.5
2018	17,226,433	7.45	6.65	17.99	24.64	24.64	0.63	25.27	56.3
2019	17,869,493	7.46	6.43	19.19	25.62	25.62	0.62	26.24	57.1
2020	18,555,740	7.47	6.21	20.15	26.36	26.36	0.60	26.96	58.0
2021	19,283,872	7.47	6.02	20.37	26.39	26.39	0.57	26.96	59.0
2022	20,054,674	7.47	5.84	20.62	26.46	26.46	0.57	27.03	60.3

1. The projection of contribution rates is based on the assumption that there are no changes in demographic assumptions, no changes in benefit provisions, and no actuarial gains or losses other than gains or losses on the actuarial value of assets that result from recognizing currently deferred gains or losses on the market value of assets.
2. In general, the Preliminary Employer Pension Rate equals the sum of the rates for the Employer Normal Cost and the Unfunded Liability; and the Final Employer Pension Rate is the greater of the Preliminary Pension Rate and any Pension Rate Floor stated in the Retirement Code. The Total Employer Rate is the sum of the Final Employer Pension Rate and the Employer Health Insurance Rate.
3. For fiscal years ending on or before June 30, 2002, there was no floor specified in the Retirement Code, but the Final Employer Pension Rate could not be less than 0%, since money can only be removed from the trust for purposes allowed by the Retirement Code.
4. Act 2002-38 amended the Retirement Code to place a permanent 1% floor on the Employer Pension Rate, but also provided that the Total Employer Rate for the year ending June 30, 2003 could not exceed 1.15%, resulting in a 0.18% Final Employer Pension Rate (the Total Employer Rate of 1.15% minus the 0.97% Employer Health Insurance Rate).
5. Act 2003-40 amended the Retirement Code to increase the Employer Pension Rate Floor from 1% to 4%.
6. Revised actuarial assumptions based on a five-year experience review ending June 30, 2005 were used to determine the contributions for the fiscal year ending June 30, 2007. Since the benefit changes under Act 2001-9 had not been in effect throughout the entire period covered by the study the Board decided, at its December 2005 meeting, to delay making any changes to the retirement rate assumptions until further data became available. The 5.72% Final Employer Pension Rate equals the 6.46% Total Employer Rate certified by the Board at that meeting, minus the 0.74% Employer Health Insurance Rate. The 5.67% Preliminary Employer Pension Rate equals the sum of the Employer Normal Cost and Unfunded Liability rates. The Normal Cost and Unfunded Liability rates were calculated by the actuary in January 2006, based on the package of assumptions adopted at the December 2005 meeting.
7. The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.
8. Act 2010-46 recertified the fiscal year ending June 30, 2011 pension rate from 7.58% to 5.00%.
9. The Final Employer Pension rate is limited by the Act 2010-120 pension rate collar.

TABLE 11

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

ASSUMPTIONS

Interest Rate: 8.00% per annum, compounded annually (adopted as of June 30, 2009). The components are 3.25% for inflation and 4.75% for the real rate of return. Actuarial equivalent benefits are determined based on 4% (since 1960).

Separation from Service: Illustrative rates of assumed separation from service are shown in the following table. (Rates of non-vested withdrawal, of death, and of disability were adopted as of June 30, 2005; other rates were adopted as of June 30, 2000):

Age	Annual Rate of:						
	Non-Vested Withdrawal	Vested Withdrawal*		Death	Disability	Early Retirement**	Superannuation Retirement
		Less Than 10 Years of Service	10 or More Years of Service				
MALES							
25	12.40%	5.50%	1.40%	.042%	.024%		
30	10.00	3.00	1.40	.057	.024		
35	11.00	3.00	1.10	.062	.100		
40	11.00	3.00	.80	.072	.180		
45	11.00	3.00	.50	.100	.180		
50	11.00	3.00	1.78	.152	.280		24.00%
55	10.50	3.00	3.50	.252	.430	10.00%	24.00
60	10.00	2.40	4.50	.467	.580	10.00	28.00
65				.870	.100		20.00
69				1.335	.100		20.00
FEMALES							
25	14.10%	9.50%	4.00%	.019%	.040%		
30	14.10	7.50	4.00	.023	.040		
35	14.10	5.50	2.00	.031	.080		
40	10.90	3.50	1.00	.043	.130		
45	10.90	3.00	.55	.061	.180		
50	10.90	3.00	1.50	.085	.250		10.00%
55	10.90	3.00	3.00	.146	.480	10.00%	10.00
60	10.90	3.50	5.90	.284	.480	15.00	25.00
65				.561	.160		28.00
69				.866	.160		20.00

* Vested Withdrawal – At least 5 years service but not eligible for Early or Superannuation retirement.

** Early Retirement – Age 55 with 25 years service, but not eligible for Superannuation retirement.

TABLE 11 continued

Death after Retirement: The Uninsured Pensioners 1994 Mortality Table (UP94) with mortality improvements projected 10 years, and with age set back one year for males and females, adopted in 2005, are used to project mortality for healthy annuitants and for dependent beneficiaries. Special mortality tables based on PSERS' experience are used for disability retirements. (The 1995 George B. Buck Mortality Tables, rated forward one year for males and unadjusted for females, adopted in 2000, are used to determine actuarial equivalent benefits.)

Salary Increase: Effective average of 6% per annum, compounded annually (adopted as of June 30, 2005). The components are 3.25% for inflation, 1% for real wage growth and 1.75% for merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	12.00%
30	9.00
40	7.00
50	4.75
55	4.50
60	4.25
65	4.25
70	4.25

MISCELLANEOUS

Option 4 Elections: 100% of members are assumed to elect a refund of contributions and a reduced annuity.

Withdrawal Annuity: 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

Health Insurance

Elections: 66% of eligible retirees are assumed to elect premium assistance.

Administrative Expenses: Assumed equal to 2% of contributions made during the year.

METHODS

Calculations: The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system, and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Asset Valuation Method: A ten-year moving market average (five-year moving market average prior to June 30, 2010) value of assets that recognizes the 8.00% (8.25% prior to June 30, 2009 and 8.50% prior to June 30, 2008) actuarial expected investment return immediately and spreads the difference between the actual return on the market value of assets and the expected return on the actuarial value of assets over a period of ten years. The averaging period is being phased-in from fiscal year 2006.

Actuarial Cost Method for Pension Funding: Entry Age Normal Cost Method (modified slightly as of June 30, 2005 to use a pay-weighted average normal contribution rate). The results of each June 30 valuation normally determine the employer contribution rate for the second succeeding fiscal year. Act 120 revised the funding method effective with the June 30, 2010 valuation. Act 120 mandated that the outstanding balance of the unfunded accrued liability as of June 30, 2010, including changes in the unfunded accrued liability due to the funding reforms of Act 120, be amortized over a 24-year period, as a level percent of pay, beginning July 1, 2011. Future valuation gains and losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, are amortized over a 24-year period, as a level percent of pay. Future increases in the unfunded accrued liability due to legislation will be amortized over a 10-year period, as a level percent of pay. Act 120 also modified the employer pension contribution requirements by imposing collars on the rate at which employer contributions may rise from year to year. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with the fiscal year in which the actuarially required contribution rate is less than the collared rate, the final contribution rate is the actuarially determined contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

TABLE 11 continued

Actuarial Cost Method for GASB 25 Accounting for Pensions: Same as for pension funding, except that the GASB 25 amortization payment will be set equal to the level dollar amount that will amortize the unfunded accrued liability over a period of 30 years.

Actuarial Cost Method for Health Insurance Funding: The actuarial liability equals the assets in the health insurance account, and the results of the June 30 valuation determine the contribution rate for the second succeeding fiscal year. The rate so determined is the rate necessary to establish reserves sufficient to cover administrative expenses and provide premium assistance payments for all participating eligible annuitants during the third fiscal year that follows the valuation date.

Actuarial Cost Method for GASB 43 Accounting for Health Insurance: The actuarial liability is determined under the entry age actuarial cost method, and the Annual Required Contribution (ARC) for the second fiscal year that follows the valuation date is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years.

DATA

Census and Assets: The valuation was based on members of the Retirement System as of June 30, 2010 and does not take into account future members. All census data was supplied by the Retirement System and was subject to reasonable consistency checks. The actuary adjusts the data to account for service and pay earned by members on or before the valuation that is not reported by the Retirement System until after the actuarial valuation is performed. Asset data was supplied by the Retirement System.

TABLE 12

SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2010
($ Amounts in Thousands)

Item	Male	Female	Total
Number of Members *	76,992	205,049	282,041
Annual Salaries **	$ 3,908,918	$ 8,879,929	$ 12,788,847
Average Age ***	44.2	44.6	44.5
Average Service ***	10.9	10.3	10.5

* Excludes 111,931 inactive members and vestees.
** The salaries shown in the table above represent an annual rate of pay for the year ended June 30, 2010 for members who were in active service on June 30, 2010.
*** Average completed years of age and service.

ANNUITANTS AND BENEFICIARIES

Item	Number	Annual Annuities#	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	168,238	$ 4,112,076	$ 24,442	69.7
Survivors and Beneficiaries	8,724	91,316	10,467	76.6
Disabled Annuitants	7,972	136,247	17,091	63.1
Total	184,934	$ 4,339,639	$ 23,466	69.7

The annuities shown in the table above represent the annual amount payable as of July 1, 2010 for participants who were in payment on June 30, 2010.

TABLE 13

10 YEAR HISTORY OF MEMBERSHIP DATA

Valuation as of June 30	Number of Active Members	Percentage Change in Membership	Total Annual Payroll (Thousands)	Percentage Change in Payroll
2010	282,041	0.84%	$ 12,788,847	2.11%
2009	279,701	2.57%	12,524,593	5.06%
2008	272,690	3.28%	11,921,469	4.48%
2007	264,023	0.26%	11,410,257	(0.08%)
2006	263,350	3.09%	11,419,049	8.47%
2005	255,465	3.05%	10,527,668	4.95%
2004	247,901	0.49%	10,030,705	3.91%
2003	246,700	1.68%	9,652,881	2.92%
2002	242,616	(0.29%)	9,378,944	(0.38%)
2001	243,311	3.89%	9,414,884	5.32%

TABLE 14

10 YEAR HISTORY OF MEMBERSHIP DATA

THE NUMBER AND ANNUAL ANNUITIES OF ANNUITANT AND SURVIVOR ANNUITANT MEMBERS

Year Ended June 30	Number	Annual Annuities (Millions)	Average Annual Annuities	Additions*	Annual Annuities* (Millions)	Deletions*	Annual Annuities* (Millions)	Percentage Change in Membership	Percentage Change in Annuities
2010	184,934	$ 4,339.6	$ 23,466	10,911	$ 575.2	3,940	$ 77.6	3.92%	8.59%
2009	177,963	3,996.3	22,456	9,651	314.9	5,228	74.4	2.55%	4.85%
2008	173,540	3,811.5	21,963	10,911	345.3	5,397	73.9	3.28%	8.18%
2007	168,026	3,523.4	20,970	10,612	307.5	4,399	56.0	3.84%	7.60%
2006	161,813	3,274.5	20,236	10,637		5,343		3.38%	8.16%
2005	156,519	3,027.6	19,343	10,050		5,083		3.28%	8.20%
2004	151,552	2,798.2	18,464	10,526		4,667		4.02%	9.94%
2003	145,693	2,545.1	17,469	9,079		4,800		3.03%	13.20%
2002	141,414	2,248.3	15,899	13,003		4,305		6.55%	20.10%
2001	132,716	1,872.0	14,105	3,140		4,482		-1.00%	0.00%

* The annual annuities added and deleted are for the annuitants and survivor annuitants who were added and deleted. Changes in annuities for continuing payees may also occur due to finalization of benefit calculations and due to the commencement of supplemental annuity payments

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