

OKLAHOMA CITY EMPLOYEE RETIREMENT SYSTEM
ANNUAL ACTUARIAL VALUATION
DECEMBER 31, 2013

TABLE OF CONTENTS

Section	Page	Item
		Introduction
A		Valuation Results
	1	Funding Objective
	2	Computed Contributions
	3-4	Funding Progress Indicators
	5	Comments
	6	Unfunded Actuarial Accrued Liability
B		Summary of Benefit Provisions and Valuation Data
	1-2	Summary of Benefit Provisions
	3-4	Asset Information
	5-7	Retired Lives
	8-10	Active and Inactive Members
	11	Comparative Statement
C		Actuarial Methods, Actuarial Assumptions and Definition of Technical Terms
	1-2	Valuation Process
	3	Actuarial Methods
	4-7	Actuarial Assumptions
	8-9	Definitions of Technical Terms
	10	Miscellaneous and Technical Assumptions
D		Supplementary Information
	1-2	Supplementary Information
E		Retirement System Experience – Actual vs Expected
	1	Derivation of Experience Gain (Loss)
	2	Service Retirements During the Indicated Plan Years
	3	Non-Vested Withdrawals from Active Membership During the Indicated Plan Years
	4	Number Added to and Removed from Active Membership

June 12, 2014

The Board of Trustees
Oklahoma City Employee Retirement System
Oklahoma City, Oklahoma

Dear Board Members:

The results of the December 31, 2013 annual actuarial valuation of the Oklahoma City Employee Retirement System are presented in this report. The purpose of the valuation was to measure the System's funding progress, provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements and to determine the employer contribution for the fiscal year beginning July 1, 2015. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the Retirement Board only in its entirety and only with the permission of the Board.

The valuation was based upon information, furnished by the Retirement System Manager, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year-to-year consistency, but was not otherwise audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

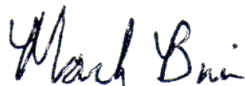
Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. Louise Gates and Mark Buis are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Louise M. Gates ASA, MAAA



Mark Buis, FSA, EA, MAAA

LMG/MB:bd

SECTION A
VALUATION RESULTS

Funding Objective

The funding objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year-to-year and will not have to be increased for future generations of citizens.

Contribution Rates

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

- (1) Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method described in Section C (the normal cost); and
- (2) Finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Computed contribution rates for the fiscal year beginning July 1, 2015 are shown on page A-2.

**COMPUTED CONTRIBUTIONS
EXPRESSED AS PERCENTAGES OF ACTIVE MEMBER PAYROLL**

The total computed contribution rates determined in the current and prior year's valuation are shown below along with the 2013 valuation results. The 2013 valuation results will be used by the City for the fiscal year beginning July 1, 2015.

Contributions for	2013
Normal Cost	
Service pensions	10.03%
Disability pensions	0.52%
Survivor pensions	
- Death before retirement	0.39%
Termination benefits	
- Deferred service pensions	0.31%
- Refunds of current member contributions	0.97%
Total normal Cost	12.22%
Unfunded Actuarial Accrued Liability (UAAL)	
Total UAAL contribution*	(0.34%)
Total Computed Contribution Rate	
Member portion	6.00%
City's computed rate	5.88%

Computed Contribution Rates as of December 31st of the Indicated Valuation Year

Contributions for	Percents of Member Payroll	
	2013	2012
Normal Cost	12.22%	12.18%
Payment on the UAAL*	(0.34%)	0.26%
Total Computed Contribution Rate	11.88%	12.44%
Member portion	6.00%	6.00%
City portion	5.88%	6.44%

* The 2013 unfunded actuarial accrued liability (the UAAL) was amortized as a level percent of active member payroll over a period of 28 years. The 2012 UAAL was amortized as a level percent of active member payroll over a period of 29 years.

Funding Progress

There is no single all-encompassing indicator to measure a retirement system's funding progress. A traditional measure has been the relationship of valuation assets to actuarial accrued liability - a measure that is influenced by the choice of actuarial cost method. Numeric information using this traditional measure is shown on the following page.

Additional understanding of funding progress can be achieved using the following test, which compares the System's present assets with:

- (1) members' contributions on deposit in the System;
- (2) present value of future benefits to present retired lives; and
- (3) present value of benefits based on service already rendered by active and inactive members.

In a system that has been following the discipline of level percent-of-payroll financing, member contributions on deposit (item 1) and the present value of future benefits to present retired lives (item 2) will be fully covered by present assets (except in rare circumstances). In addition, the present value of benefits based on service already rendered by members (item 3) will be partially covered by the remainder of present assets. The larger the funded portion of item 3, the stronger the condition of the system. Generally, if the system has been using level-percent financing, the funded portion of item 3 will increase over time.

From 1983 through 1996, item 3 was computed in accordance with the Pension Benefit Obligation required by Governmental Accounting Standards Board Statement No. 5.

A historical comparison of funding progress tests is shown on the following page.

FUNDING PROGRESS TEST
(DOLLAR AMOUNTS IN THOUSANDS)

Accrued Liabilities (AL)

Valuation Date	(1) Member Contribs.	(2) Retirants and Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)	Total AL	Assets ⁽¹⁾	Portion of Liabilities Covered by Assets			
						(1)	(2)	(3)	Overall
12/31/94	\$29,028	\$ 63,894	\$ 67,915	\$ 160,837	\$ 151,580	100 %	100 %	86 %	94 %
12/31/95	31,423	67,408	71,283	170,114	168,203	100	100	97	99
12/31/96	33,507	72,225	75,504	181,236	185,368	100	100	105	102
12/31/97	35,654	76,275	107,169	219,098	219,602	100	100	100	100
12/31/98	37,900	82,258	118,498	238,656	260,877	100	100	119	109
12/31/99	39,866	85,724	120,316	245,906	307,872	100	100	152	125
12/31/00	41,550	100,936	180,814	323,300	350,398	100	100	115	108
12/31/01	42,226	116,552	185,819	344,597	372,737	100	100	115	108
12/31/02	44,368	128,120	200,072	372,560	375,382	100	100	101	101
12/31/03	46,654	136,873	207,496	391,023	374,192	100	100	92	96
12/31/04	48,487	150,664	216,013	415,164	381,495	100	100	84	92
12/31/05	54,239	169,752	212,913	436,904	424,182	100	100	94	97
12/31/06	55,557	187,693	214,297	457,547	476,913	100	100	109	104
12/31/07	60,118	204,470	224,239	488,827	529,876	100	100	118	108
12/31/08	62,128	221,456	235,650	519,234	528,664	100	100	104	102
12/31/09	65,106	237,302	254,019	556,427	529,137	100	100	89	95
12/31/10	64,922	267,120	234,792	566,834	524,731	100	100	82	93
12/31/11	67,324	252,166	214,229	533,719	514,499	100	100	91	96
12/31/12	69,987	257,057	226,544	553,588	547,686	100	100	97	99
12/31/13	72,209	281,206	228,451	581,866	589,527	100	100	103	101

(1) Beginning with 12/31/97, funding value of assets is shown

COMMENTS

Comment A: The recommended City pension contribution for the City's 2015-2016 fiscal year is 5.88% of plan member payroll. The established maximum City contribution rate is 10% of payroll.

Comment B: This valuation of the System reflects a change in the actuarial assumptions and methods based on changes adopted by the Retirement Board in connection with the recent experience study. These changes increased the actuary's assessment of System liabilities and contribution requirements.

Comment C: During the year ended December 31, 2013, the return on System assets was higher than long term expectations (7.5% per year). The market value smoothing techniques used in this valuation of the System recognize both past and present investment experience. As a result, the recognized rate of return was 9.32%, which is higher than long term expectations but lower than the return on trust assets during the year. In addition, during the 2013 plan year, there were more retiree deaths and a lower post retirement cost of living adjustment than anticipated by actuarial assumptions. This favorable experience is the primary reason for the decrease in the employer contribution rate over the prior year. Additional information on the investment experience is provided on page B-4 of this report.

Comment D: As of the valuation date, the System's funded ratio (the ratio of the funding value of assets to the accrued liabilities of the System) was 101%. Last year the ratio was 99%. The increase in funded ratio over the prior year is due primarily to the favorable System experience during calendar year 2013. On a market value basis, the funded ratio was 108% as of December 31, 2013.

Comment E: GASB statement number 67 will replace statement number 25 effective for the plan's year end reporting as of June 30, 2014. GRS will provide a report containing actuarial information needed in connection with the new financial reporting requirements this Fall.

UNFUNDED ACTUARIAL ACCRUED LIABILITY
(AMOUNTS IN THOUSANDS OF DOLLARS)

	December 31	
	2013	2012
A. Actuarial present value of future benefits	\$710,222	\$665,425
B. Actuarial present value of future normal costs	128,356	111,837
C. Actuarial accrued liability	581,866	553,588
D. Assets allocated to funding	589,527	547,686
E. Unfunded actuarial accrued liability	(7,661)	5,902
F. Ratio of assets to actuarial accrued liability	101%	99%

HISTORICAL SCHEDULE OF CITY CONTRIBUTION RATES
AND THE ASSOCIATED AMORTIZATION PERIOD

Valuation Date	Established City Contribution Rate	Years to	Years to
December 31	as a % of	Amortize UAL	Liquidate Surplus
	Active Member Payroll		
1999	8.35 %	0.0	
2000 *	7.00	0.0	
2001	7.00	0.0	
2002	7.00		3.8
2003	7.00	40.0	
2004 #	8.25	40.0	
2005	7.94	30.0	
2006	6.16		29.0
2007	5.04		28.0
2008	6.77		27.0
2009	8.56	26.0	
2010	9.49	25.0	
2011 *	7.15	30.0	
2012	6.44	29.0	
2013 ^	5.88		28.0

* Retirement System amended

The average established City contribution for the indicated fiscal year

^ Change in Actuarial Assumptions

SECTION B

**SUMMARY OF BENEFIT PROVISIONS
AND VALUATION DATA**

SUMMARY OF BENEFIT PROVISIONS EVALUATED OR CONSIDERED (DECEMBER 31, 2013)

Regular Retirement (no reduction factor for age)

Eligibility - Pre 3-1-67 hires: Age 60 with 20 years of service; or, any age with 30 years of service.

Post 3-1-67 hires: Age 65 with 5 years of service; or, any age with 25 years of service.

Annual Amount - Normal retirement benefit: 2% of average final compensation for all years and complete months of service, to a maximum of 100% of AFC.

Average Final Compensation (AFC) - Average earned compensation (excluding compensation for unused vacation and sick leave) during highest 36 months of service out of the last 60 consecutive months of service.

Early Retirement (reduction factor for age)

Eligibility - Age 55 with 5 years of service.

Annual Amount - Same as regular retirement amount but reduced 4% for each full year or portion of a year that payments commence prior to age 65 (age 60 if hired prior to 3-1-67).

Deferred Retirement (vested benefit)

Eligibility - 5 years of service. Benefit begins at age 65 (age 60 if hired prior to 3-1-67) or at age 55 on a reduced basis.

Annual Amount - Same as regular retirement based on service and average final compensation at time of termination.

Duty Disability Retirement

Eligibility - No age or service requirements.

Annual Amount - 40% of average final compensation, reduced if degree of disability is less than total disability.

Non-Duty Disability Retirement

Eligibility - Any age with 15 years of service.

Annual Amount - 2% of average final compensation for each full year of service, plus 1/12 of 2% for each full month of service due to a partial year of service to a maximum of 40% of AFC. Amount is reduced if degree of disability is less than total disability.

SUMMARY OF BENEFIT PROVISIONS EVALUATED OR CONSIDERED

(DECEMBER 31, 2013)

Duty Death Before Retirement

Eligibility - No age or service requirements.

Annual Amount - 20% of average final compensation to an eligible spouse. Payments cease upon death. If there is no eligible spouse, accumulated employee contributions are paid to designated beneficiary. For members eligible under age and service conditions, the benefit is the amount the spouse would have received as a joint annuitant under normal or early retirement conditions.

Non-Duty Death Before Retirement

Eligibility - Any age with 15 years of service.

Annual Amount - Same as duty death.

Post-Retirement Adjustments

Pensions may be adjusted annually (in January) for changes in the Consumer Price Index. The maximum adjustment is 2% per year compounded. The first adjustment is made one year following retirement for those age 65 (60 for pre 3-1-67 hires) or those awarded disability allowances. For all others, the first adjustment is made no earlier than 4 years following retirement.

Post-Retirement Death Benefit

Eligibility – Retiree currently collecting pension benefits from the System.

Amount – A one-time payment of \$5,000 payable upon the death of the retiree. This benefit is payable only upon the death of the retiree, and is payable to the designated beneficiary.

Member Contributions

6% of annual pay.

Employer Contributions

7% of annual payroll effective March 2, 2001 – December 31, 2005.

The actuarially determined contribution rate (up to a maximum of 10% of pay) effective January 1, 2006.

Partial Lump Sum Payment Option

Members who are eligible for Regular Retirement may elect this optional form of payment, which allows for cash at retirement of up to \$30,000. Any remaining monthly retirement benefit is reduced actuarially to reflect the payment of cash at retirement.

ASSET INFORMATION SUBMITTED FOR VALUATION

The net market value of Retirement System assets was reported to be \$626,116,736 as of December 31, 2013. The derivation of the funding value of assets used for the actuarial valuation is shown on the following page.

Revenues and Expenditures – Market Value Basis

	Year Ended December 31,	
	2013	2012
Revenues:		
a. Member contributions	\$ 7,220,213	\$ 6,934,674
b. City contributions	10,606,891	10,357,221
c. Investment income		
1. Interest and dividends	9,189,109	8,031,193
2. Realized & unrealized gain/(loss)	81,558,358	53,257,587
3. Securities lending income	22,645	61,819
d. Other	100,451	109,508
e. Total revenues	\$ 108,697,667	\$ 78,752,002
Expenditures:		
a. Refunds of member contributions	\$ 1,070,270	\$ 995,842
b. Benefits paid	25,665,693	24,204,684
c. Administrative expenses	440,574	442,540
d. Investment expenses	1,659,312	1,570,004
e. Other expenses	0	0
f. Total expenditures	\$ 28,835,849	\$ 27,213,070
Reserve Increase (Decrease):		
Total revenues minus total expenditures	\$ 79,861,818	\$ 51,538,932

Reported Market Value of Assets

	December 31, 2013
Cash & Other	\$ 13,716,581
Fixed Income	127,959,450
Equities	454,082,175
Real Estate	36,434,178
Total Assets	632,192,384
Less Accounts Payable	6,075,648
Net Assets	\$626,116,736

DEVELOPMENT OF VALUATION ASSETS

Year Ended December 31:	2012	2013
A. Funding Value Beginning of Year	\$514,499,285	\$547,685,505
B. Market Value End of Year	546,254,918	626,116,736
C. Market Value Beginning of Year	494,715,986	546,254,918
D. Non-Investment Net Cash Flow	(7,799,123)	(8,808,408)
E. Investment Income		
E1. Market Total: B - C - D	59,338,055	88,670,226
E2. Amount for Immediate Recognition*	40,847,978	40,746,098
E3. Amount for Phased-In Recognition E1-E2	18,490,077	47,924,128
F. Phased-In Recognition of Investment Income		
F1. Current Year: 0.25 x E3	\$ 4,622,519	\$ 11,981,032
F2. First Prior Year	(8,598,046)	4,622,519
F3. Second Prior Year	1,897,947	(8,598,046)
F4. Third Prior Year	2,214,945	1,897,947
F5. Total	137,365	9,903,452
G. Funding Value End of Year: A + D + E2 + F5	547,685,505	589,526,647
H. Difference between Market & Funding Value	(1,430,587)	36,590,089
I. Net Recognized Rate of Return - Funding Value Basis	8.03%	9.32%
J. Net Recognized Rate of Return - Market Value Basis	12.09%	16.36%
K. Ratio of Funding Value to Market Value	1.002	0.942

*an 8% return was used in the 2012 valuation and 7.5% was used in 2013

RETIRANT AND BENEFICIARY DATA

Valuation Date	No. of Pension Recipients				Total Annual Pensions ⁽²⁾	% of Payroll	Average Annual Pension	% Incr. in Total Pensions
	Service	Disability	Survivor	Total				
Dec. 31								
1994	621	51	204	876	\$ 5,759,562	8.2 %	\$ 6,575	6.8 %
1995	630	54	198	882	6,131,477	8.8	6,952	5.7
1996	634	55	195	884	6,507,720	9.2	7,362	6.1
1997	634	54	200	888	6,818,103	9.1	7,678	4.8
1998	633	56	202	891	7,134,692	9.0	8,008	4.6
1999	643	56	202	901	7,470,215	9.2	8,291	4.7
2000 ⁽¹⁾	646	61	203	910	9,188,323	11.4	10,097	23.0
2001	694	63	205	962	10,386,513	12.4	10,797	13.0
2002	725	65	210	1,000	11,261,772	13.0	11,262	8.4
2003	731	68	207	1,006	11,972,938	14.0	11,902	6.3
2004	773	66	207	1,046	13,038,432	14.7	12,465	8.9
2005	796	67	213	1,076	14,355,655	15.7	13,342	10.1
2006	823	69	221	1,113	15,766,306	16.5	14,166	9.8
2007	854	66	233	1,153	17,117,037	17.2	14,846	8.6
2008	894	59	225	1,178	18,459,873	17.5	15,671	7.8
2009	936	56	226	1,218	19,673,159	17.8	16,152	6.6
2010	995	59	229	1,283	21,945,667	21.3	17,105	11.6
2011	1,018	56	225	1,299	22,946,844	21.0	17,665	4.6
2012	1,030	55	239	1,324	23,757,916	20.7	17,944	3.5
2013	1,062	54	229	1,345	25,047,506	21.0	18,623	5.4

(1) Reflects a one-time increase resulting from purchasing power study.

(2) Annual pension amounts shown above are reported to the actuary by the City and reflect annual pension payments as of the indicated valuation date.

PENSIONS BEING PAID DECEMBER 31, 2013
TABULATED BY AGE OF RECIPIENT

Age	Service Pensions		Disability Pensions		Survivor Pensions		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
Under 45					1	\$ 7,164	1	\$ 7,164
45 - 49	11	\$ 296,688			3	36,828	14	333,516
50 - 54	55	1,459,440	6	63,792	8	140,904	69	1,664,136
55 - 59	139	3,338,352	15	208,489	16	212,892	170	3,759,733
60 - 64	187	4,241,376	15	144,300	17	255,336	219	4,641,012
65 - 69	207	4,212,028	7	68,652	29	413,112	243	4,693,792
70 - 74	186	3,584,280	5	54,396	33	441,708	224	4,080,384
75 - 79	121	2,248,464	2	16,104	38	479,397	161	2,743,965
80 - 84	87	1,391,088	3	34,932	37	350,304	127	1,776,324
85 - 89	50	667,404			34	292,104	84	959,508
90+	19	265,800	1	10,584	13	111,588	33	387,972
Totals	1,062	\$21,704,920	54	\$601,249	229	\$2,741,337	1,345	\$25,047,506

PENSIONS BEING PAID DECEMBER 31, 2013
TABULATED BY YEAR OF RETIREMENT

Year of Retirement	No. #	Annual Pensions	
		Total	Average
1970 - 1974	3	\$ 25,485	\$ 8,495
1975 - 1979	10	111,321	11,132
1980 - 1984	24	218,039	9,085
1985	8	105,932	13,242
1986	12	195,315	16,276
1987*	53	947,401	17,875
1988	8	72,594	9,074
1989	7	122,692	17,527
1990	8	128,523	16,065
1991	16	216,187	13,512
1992	14	119,381	8,527
1993	13	124,704	9,593
1994	23	371,102	16,135
1995	28	386,311	13,797
1996	32	473,182	14,787
1997	33	466,432	14,134
1998	31	395,736	12,766
1999	35	469,001	13,400
2000	39	551,989	14,154
2001	66	1,343,951	20,363
2002	57	972,752	17,066
2003	51	991,071	19,433
2004	71	1,345,545	18,951
2005	64	1,247,647	19,494
2006	73	1,552,180	21,263
2007	74	1,457,353	19,694
2008	74	1,489,404	20,127
2009	78	1,741,995	22,333
2010	118	2,605,877	22,084
2011	68	1,507,064	22,163
2012	68	1,393,215	20,488
2013	86	1,898,125	22,071
Totals	1,345	\$25,047,506	\$18,623

* Reflects early retirement incentive program.

Includes surviving spouses of deceased retirees.

**SYSTEM MEMBERS INCLUDED IN VALUATION
COMPARATIVE SCHEDULE**

Valuation Date Dec. 31	Number of		Annual Payroll ⁽¹⁾	Active Member Averages			Ratio of Active to Retired Members	% Increase/ (Decrease) in Avg Pay
	Active Members	Inactive Members		Age	Service	Pay		
1993	2,520	15	\$66,278	40.9 yrs.	9.5 yrs.	\$26,301	2.9	7.6 %
1994	2,492	14	70,151	41.6	10.0	28,150	2.8	7.0
1995	2,428	16	69,754	42.2	10.5	28,729	2.8	2.1
1996	2,401	17	70,972	42.8	10.9	29,559	2.7	2.9
1997	2,418	19	74,752	43.3	11.1	30,908	2.7	4.6
1998	2,404	25	79,195	43.7	11.6	32,929	2.7	6.5
1999	2,453	36	80,897	43.8	11.6	32,979	2.7	0.2
2000	2,454	41	80,503	44.0	11.6	32,805	2.7	(0.5)
2001	2,454	49	83,862	44.0	11.4	34,174	2.6	4.2
2002	2,374	55	86,428	44.5	11.7	36,406	2.4	6.5
2003	2,290	61	85,666	45.2	12.3	37,409	2.3	2.8
2004	2,302	54	88,866	45.2	12.3	38,604	2.2	3.2
2005	2,312	58	91,641	45.5	12.3	39,637	2.1	2.7
2006	2,353	62	95,504	45.5	12.1	40,588	2.1	2.4
2007	2,380	66	99,574	45.5	12.0	41,838	2.1	3.1
2008	2,422	71	105,566	45.8	11.9	43,586	2.1	4.2
2009	2,380	73	110,408	46.3	12.3	46,390	2	6.4
2010	2,304	81	102,915	46.4	12.3	44,668	1.8	(3.7)
2011	2,398	75	109,293	46.3	12.1	45,577	1.8	2.0
2012	2,459	83	114,933	46.4	12.0	46,740	1.9	2.6
2013	2,487	82	119,457	46.4	11.9	48,032	1.8	2.8

⁽¹⁾ In thousands of dollars

INACTIVE MEMBERS - DECEMBER 31, 2013
ELIGIBLE FOR DEFERRED PENSIONS
TABULATED BY AGE

Age	No.	Estimated Annual Allowances
Under 40	11	\$ 75,641
40	2	22,019
41	4	24,241
42	3	22,609
43	5	44,092
44	2	38,976
45	1	13,518
48	2	21,360
49	4	34,297
50	6	72,623
51	6	72,084
52	3	44,152
53	3	58,657
54	7	91,253
55	1	5,441
56	2	26,019
57	3	19,315
58	3	24,338
59	2	15,849
60 & Over	12	149,158
Totals	82	\$875,642

ACTIVE MEMBERS AS OF DECEMBER 31, 2013
BY AGE AND YEARS OF SERVICE

Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	46							46	\$ 1,386,776
25-29	119	42						161	5,575,611
30-34	166	81	23					270	10,077,181
35-39	117	80	42	11				250	10,709,979
40-44	88	84	67	36	26			301	14,252,158
45-49	82	80	61	51	62	24	1	361	17,914,406
50-54	62	74	49	57	74	66	30	412	21,726,030
55-59	53	77	42	47	59	38	61	377	20,646,546
60	6	10	7	8	12	10	9	62	3,365,244
61	2	8	7	9	17	10	14	67	3,751,984
62	3	3	9	6	2	4	8	35	1,806,115
63	4	4	7	4	6	4	8	37	2,132,934
64	5	4	2	5	8	5	9	38	2,089,304
65	2	1	4	2	5	1	6	21	1,344,265
66	2	3	3	1	2	2	1	14	865,440
67		2			2		2	6	306,120
68		2	1			1	1	5	265,181
69	2	1	2	1		2		8	420,842
70	1		1	2	1	1		6	410,472
72	1			1				2	80,555
74		2	1				1	4	182,272
75			1					1	16,301
77		1		1	1			3	130,931
Totals	761	559	329	242	277	168	151	2,487	\$119,456,647

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Group Averages:

Age: 46.4 years
Service: 11.9 years
Annual Pay: \$48,032

**SCHEDULE OF
RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS
COMPARATIVE STATEMENT**

Year Ended Dec. 31	Added to Rols ⁽²⁾		Removed from Rols		Rolls End of Year			% Incr. In Benefits
	No.	Annual Benefits ⁽¹⁾	No.	Annual Benefits	No.	Annual Benefits	Avg. Annual Benefits	
2005	80	\$1,835,088	50	\$517,865	1,076	\$ 14,355,655	\$ 13,342	10.1 %
2006	85	1,978,502	48	567,851	1,113	15,766,306	14,166	9.8
2007	95	1,989,651	55	638,920	1,153	17,117,037	14,846	8.6
2008	85	2,109,746	60	766,910	1,178	18,459,873	15,671	7.8
2009	86	1,905,592	46	692,306	1,218	19,673,159	16,152	6.6
2010	120	3,059,254	55	786,746	1,283	21,945,667	17,105	11.6
2011	70	1,778,917	54	777,740	1,299	22,946,844	17,665	4.6
2012	74	1,467,021	49	655,949	1,324	23,757,916	17,944	3.5
2013	86	2,215,300	65	925,710	1,345	25,047,506	18,623	5.4

(1) Includes post retirement cost-of-living adjustments. The year 2000, reflects increases in connection with special purchasing power study.

(2) Includes reported data corrections.

SECTION C

ACTUARIAL METHODS, ACTUARIAL ASSUMPTIONS AND DEFINITION OF TECHNICAL TERMS

THE ACTUARIAL VALUATION PROCESS

The *actuarial valuation* is the mathematical process by which actuarial present values and contribution rates are determined. The flow of activity constituting the valuation may be summarized as follows:

- A. ***Census data***, furnished by plan administrator, including:
 - Retired lives now receiving benefits
 - Former employees with vested benefits not yet payable
 - Active employees

- B. + ***Benefit provisions***, furnished by plan administrator

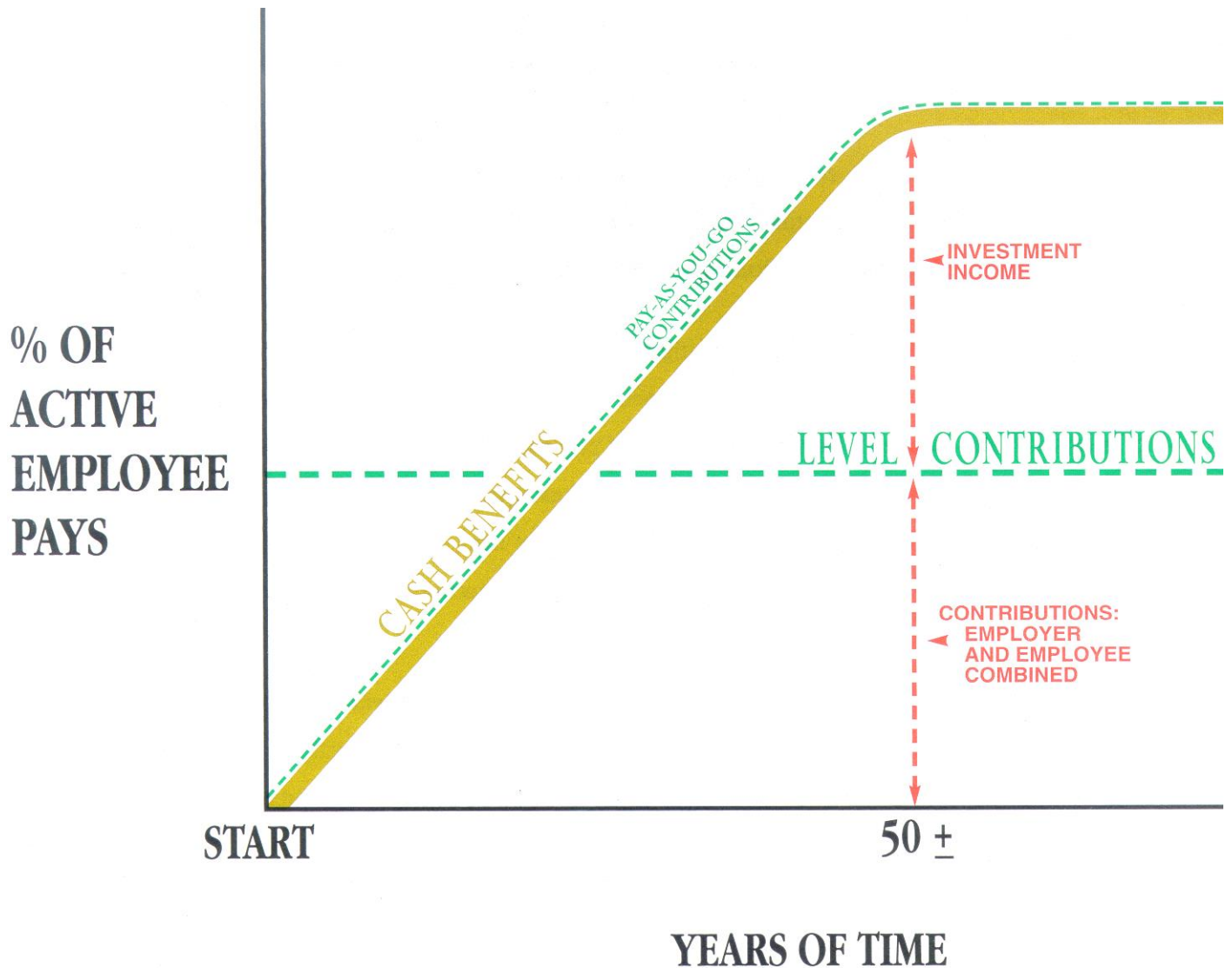
- C. + ***Asset data*** (cash & investments), furnished by plan administrator

- D. + ***Assumptions concerning future experience*** in various risk areas

- E. + The ***funding method*** for employer contributions (the long-term, planned pattern for employer contributions)

- F. + ***Mathematically combining the assumptions, the funding method and the data***

- G. = Determination of:
 - Plan Financial Position and/or
 - New Employer Contribution Rate



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

ACTUARIAL METHODS

Actuarial Cost Method

The actuarial cost method is a procedure for allocating the actuarial present value of pension plan benefits and expenses to time periods. The method used for the valuation is known as the individual entry-age actuarial cost method and has the following characteristics.

- (i) The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's pension at time of retirement.
- (ii) Each annual normal cost is a constant percentage of the member's year by year projected compensation.

The entry-age actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's compensation between the entry age of the member and the assumed exit ages.

The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called the actuarial accrued liability. Deducting System assets from the actuarial accrued liability determines the unfunded actuarial accrued liability.

Actuarial Value of Assets

The funding value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be lower than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is unbiased with respect to market value. At any time it may be either greater or less than market value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to market value.

ACTUARIAL ASSUMPTIONS

Funding objective contribution requirements and actuarial present values are calculated by applying actuarial assumptions to the benefit provisions and people information of the System, using the actuarial cost method described on page C-3.

The principal areas of risk which require actuarial assumptions about future experiences are:

- (i) long-term rates of investment return to be generated by the assets of the System
- (ii) patterns of pay increases to members
- (iii) rates of mortality among members and retired lives
- (iv) rates of withdrawal of active members
- (v) rates of disability among active members
- (vi) the age patterns of actual retirements

In a valuation, the monetary effect of each assumption projected is for as long as a present covered person or potential beneficiary survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience. From time-to-time one or more of the assumptions are modified to reflect experience trends (but not random or temporary year to year fluctuations).

ACTUARIAL ASSUMPTIONS

Investment Return (net of expenses)

The rate of investment return assumed in the valuation was seven and one-half percent (7.5%) per year, compounded annually.

Wage Inflation

The wage inflation rate assumed in this valuation was 3.75% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macroeconomic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes rated to individual merit and seniority effects. The assumed real rate of return over wage inflation is 3.75% per year.

Salary Increase Rates

These assumptions are used to project current pays to those which will determine average final compensation.

Sample Ages	Annual Rate of
	Merit and Longevity
1	3.50 %
2	3.50
3	3.50
4	3.50
5	3.50
6	3.50
7	3.50
8	3.50
9	3.50
10	3.50
11	3.50
12	3.50
13	3.50
14	3.00
15+	0.00

The active member population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at a rate of 3.75% per year.

Price inflation

The assumed rate of price inflation used in this valuation was 3.00% per year.

Mortality Table

The mortality assumption is used to measure the probabilities of a member dying before retirement and the probability of each benefit payment being made. The RP 2000 mortality table projected to 2010 was used in this valuation of the System. Sample statistics are shown below. This was first used in the 12/31/2013 valuation.

Sample Ages	Value at Retirement of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$143.70	\$146.33	31.81	34.12
55	135.81	139.26	27.13	29.40
60	125.75	130.27	22.62	24.85
65	113.65	119.46	18.40	20.57
70	99.83	107.03	14.56	16.65
75	84.10	93.08	11.08	13.11
80	67.47	77.78	8.09	9.96

Rates of Retirement

Rates of retirement are used to measure the probabilities of an eligible member retiring during the next year, and are summarized below. These rates were first used for the December 31, 2013 valuation.

Age of Member	Percent of Eligible Members Retiring During Next Year	Years of Service	Percent Retiring
55	6%	25	15%
56	6	26	10
57	6	27	10
58	6	28	10
59	6	29	10
60	6	30	10
61	6	31	10
62	6	32	10
63	6	33	10
64	6	34	10
65	40	35	10
66	25	36	10
67	25	37	10
68	30	38	10
69	40	39	10
70	100	40	20
		41	10
		42	20
		43	10
		44	10
		45	100

The service based retirement rates were applied to those members first eligible to retire under "25 and out". The age based retirement rates were applied to members retiring under '65/5' or the Plan's early retirement condition.

The probability of retiring at age 70 was assumed to be 100% regardless of service.

Rates of Separation from Active Membership

This assumption measures the probabilities of a member terminating employment. The rates do not apply to members who are eligible to retire.

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	25.00%
	1	17.00
	2	12.00
	3	8.00
	4	6.00
25	5 & Over	7.00
30		6.00
35		4.75
40		3.50
45		2.40
50		1.50
55		1.00
60		1.00

Rates of Disability

This assumption measures the probabilities of a member becoming disabled.

Age of Member	% of Active Members During Next Year	
	Males	Females
25	0.08%	0.06%
30	0.09	0.07
35	0.11	0.09
40	0.14	0.13
45	0.21	0.19
50	0.62	0.57
55	0.97	0.86
60	1.10	0.96

Disabled life mortality is measured by the RP 2000 mortality table projected to 2010 at time of disability.

DEFINITIONS OF TECHNICAL TERMS

Actuarial Accrued Liability. The difference between the actuarial present value of System benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial liability."

Actuarial Assumptions. Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Equivalent. A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of Retirement System benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Gain (Loss). The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal -- as opposed to paying off with lump sum payment.

DEFINITIONS OF TECHNICAL TERMS

Normal Cost. The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability. The difference between actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded actuarial liability" or "unfunded accrued liability".

The existence of an unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. The unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liability and the trend in its amount (after due allowance for devaluation of the dollar).

SUMMARY OF ASSUMPTIONS USED
DECEMBER 31, 2013
MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption:	80% of the population is assumed to be married for purposes of death-in-service benefits.
Pay Increase Timing:	Beginning of year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	All decrements were assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Expenses:	Assumed investment return is net of administrative and investment expenses.
Non-forfeiture Assumption:	All vested terminated members who terminate close to retirement were assumed to elect a deferred retirement while those terminating with less service were assumed to elect a refund of their contributions in lieu of deferred retirement benefits.

SECTION D

SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS
(DOLLAR AMOUNTS IN THOUSANDS)

Actuarial Valuation Date December 31,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	UAAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
2003	\$374,192	\$391,023	\$ 16,831	95.7 %	\$ 85,666	19.6 %
2004	381,495	415,164	33,669	91.9	88,866	37.9
2005 #	424,182	436,904	12,722	97.1	91,641	13.9
2006	476,913	457,547	(19,366)	104.2	95,504	(20.3)
2007	529,876	488,827	(41,049)	108.4	99,574	(41.2)
2008	528,664	519,234	(9,430)	101.8	105,566	(8.9)
2009	529,137	556,427	27,290	95.1	110,408	24.7
2010	524,731	566,834	42,103	92.6	102,915	40.9
2011 *#	514,499	533,719	19,220	96.4	109,293	17.6
2012	547,686	553,588	5,902	98.9	114,933	5.1
2013 #	589,527	581,866	(7,661)	101.3	119,457	(6.4)

Changes in methods and assumptions

* Plan provision changes

Analysis of the dollar amounts of the actuarial value of assets, actuarial accrued liability, or actuarial accrued liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the System's funded status on a going-concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the plan. The unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of covered payroll approximately adjusts for the effects of inflation and aids analysis of the progress being made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the plan.

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS

Valuation Date December 31,	Annual Required Contribution ⁽¹⁾
2004	\$6,989,274
2005	8,348,510
2006	8,323,183
2007	7,019,982
2008	5,911,702
2009	5,564,582
2010	6,077,150
2011	8,377,304
2012	10,372,658
2013	9,938,793

⁽¹⁾ For the plan year ending on the valuation date

Note: The City develops the annual required contribution for financial reporting purposes (the City's CAFR) based on the recommendation of the actuary and the City's contribution policy. This information is presented in draft form for review by the City's auditor.

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Valuation Date	December 31, 2013
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level Percent of payroll
Amortization Period	28 years closed
Asset Valuation Method	4-year smoothed market
Actuarial Assumptions:	
Investment Rate of Return*	7.5%
Projected Salary Increases*	3.75% - 7.25%
*Includes Wage Inflation	3.75%
Cost-of-Living Adjustments	Up to 2.0% per year

SECTION E

**RETIREMENT SYSTEM EXPERIENCE
ACTUAL VS. EXPECTED**

**DERIVATION OF EXPERIENCE GAIN (LOSS)
CALENDAR YEARS 2009 - 2013**

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year by year historic comparison.

	Amounts shown are expressed in thousands of dollars				
	2013	2012	2011	2010	2009
(1) UAAL* at start of year	\$ 5,902	\$ 79,423	\$ 42,103	\$ 27,290	\$ (9,430)
(2) Normal cost from last valuation	14,550	15,252	14,470	13,626	14,640
(3) Actual member and employer contributions	17,827	17,292	14,953	12,707	12,035
(4) Interest accrual on (1), (2) and (3)	320	6,272	3,349	2,220	(650)
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	2,945	83,655	44,969	30,429	(7,475)
(6) Increase due to benefit/assumption changes	3,568	(65,947)	0	0	0
(7) Increase due to revised actuarial methods	0	0	0	0	0
(8) Expected UAAL after changes: (5) + (6) + (7)	6,513	17,708	44,969	30,429	(7,475)
(9) Actual UAAL at end of year	(7,661)	5,902	79,423	42,103	27,290
(10) Gain (loss): (8) - (9)	14,174	11,806	(34,454)	(11,674)	(34,765)

* *Unfunded actuarial accrued liability (UAAL)*

Note: benefit changes reflected in the 2012 gain/loss but adopted retroactively for the 2011 valuation

SERVICE RETIREMENTS DURING THE INDICATED PLAN YEARS

Age Group	Number Retiring in the Indicated Year		
	2013	2012	2011
40-44			
45-49	3	2	3
50-54	8	5	9
55-59	9	10	12
60	3		1
61	4	1	2
62	11	5	5
63	5	3	4
64	4	4	2
65	2	4	5
66	3	3	3
67	5	3	
68			
69	4	2	
70 & Over	5	3	2
Total	66	45	48
Expected	130.0	130.1	111.6

The chart above shows actual versus expected retirements from City employment and does not include retirements from deferred status or disability retirements.

**NON-VESTED WITHDRAWALS
FROM ACTIVE MEMBERSHIP
DURING THE INDICATED PLAN YEARS**

Age Groups	Years of Service	Number Terminating during the Indicated Year		
		2013	2012	2011
	0	42	37	22
	1	19	17	16
	2	8	13	12
	3	5	11	10
	4	5	9	12
	Sub-Total	79	87	72
Under 30	5 & Over	3	0	1
30-34		5	4	6
35-39		3	3	5
40-44		6	5	10
45-49		5	9	3
50-54		5	6	4
55-59		3	1	6
60 & Over		2	3	0
	Sub-Total	32	31	35
	Total	111	118	107
	Expected No.	145.1	136.0	114.0

NUMBER ADDED TO AND REMOVED FROM ACTIVE MEMBERSHIP
ACTUAL & EXPECTED

Valuation Date December 31	Number Added During Year		Retirement		Disabled		Died-In Service		Other Withdrawal		Members End of Year
	A	E	A	E	A	E	A	E	A	E	
1999	285	240	38	51.6	3	4.1	5	4.6	194	143.4	2,449
2000	309	308	38	54.1	6	4.3	3	4.7	261	159.1	2,454
2001	331	331	82	74.6	4	3.6	5	3.7	240	162.7	2,454
2002	135	215	54	89.1	5	3.1	9	3.7	147	172.2	2,374
2003	120	213	42	87.6	2	3.2	7	3.7	153	146.7	2,290
2004	207	201	62	98.7	1	3	3	3.9	129	119.9	2,302
2005	200	190	57	100.2	3	3.1	6	4.1	124	129.6	2,312
2006	238	197	63	88.8	3	3.1	2	3.8	129	131.4	2,353
2007	206	179	64	93.4	1	3	5	3.9	109	148.9	2,380
2008	220	178	68	94.7	0	2.8	0	4.0	110	149.5	2,422
2009	138	180	67	106.8	1	2.6	2	4.0	110	159.2	2,380
2010	137	213	91	106.7	4	2.5	4	4.1	114	132.6	2,304
2011	257	163	48	111.6	1	2.4	3	4.2	111	124.0	2,398
2012	242	181	45	116.1	1	2.5	3	4.4	132	146.0	2,459
2013	221	193	66	130.0	2	2.4	4	4.6	121	154.9	2,487
2009-2013	995	930	317	571.2	9	12.4	16	21.3	588	716.7	

A: Actual experience

E: Expected experience based on actuarial assumptions